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## **2010 NDIA SPECIAL MISSIONS CONFERENCE**

**NSWC Crane**

**Crane, IN**

**August 9-12, 2010**

Agenda  
Conference Slide  
Presenter Biographies  
PEO Land Mine Warfare      Windows Media Video

### **Tuesday, August 10, 2010**

#### ***Guest Speaker: State of Indiana Governor's Office***

- Mr. Chad Pittman

#### ***Guest Speaker:***

- Mr. Greg Knapp (SES), Executive Director of the Joint Training Directorate and Joint Warfighting Center (J7/JWFC)

#### ***Guest Speaker: "Intelligence Tools for Irregular Warfare: Spiral Analysis and Counter-Threat Finance"***

- Mr. Randy Weaver, CTC Senior Director, Intelligence Analysis Programs

### **Wednesday, August 11, 2010**

***Joint Irregular Warfare Capability Gaps***, Major General David A. Morris, USA, USJFCOM Joint Irregular Warfare Center (JIWC) Director

#### ***Guest Speaker: Special Mission Science and Technology***

- CAPT William Shepherd, USN (Ret.), USSOCOM Director of Science and Technology

#### ***Muscatatuck Urban Training Center (MUTC) – Complex Center of Operations (CCO)***

- Brigadier General Omer C. Tooley, USA

#### ***Special Operations ISR Capabilities***

- CAPT Gregory Kniff, USN, USSOCOM J33 Joint Reconnaissance

#### ***Navy's Vision for Confronting Irregular Challenges***

- CDR Bruce Defibaugh, USN, Strategy and Policy, Navy Irregular Warfare Office

#### ***Guest Speaker: "Southern Indiana As A Test Bed"***

- LTC Kenneth McCallister, USA (Ret.)

### **Thursday, August 12, 2010**

#### ***Navy Maritime and Littoral Efforts***

- Mr. Victor Gavin, Program Executive Office Littoral and Mine Warfare Executive Director

***Guest Speaker***

- Mr. James McMains, ONR Director for Combating Terrorism and Enterprise Integration

***Information Technology Collaboration: Linking Intelligence, Surveillance and Reconnaissance Operations***

- Mr. Robert A. Piccerillo, Representative from Multi-Agency Collaboration Environment (MACE)

**2010 NDIA Special Missions Conference Tentative Agenda\***

**August 9 - 12, 2010**

**NSWC Crane**

**Crane, IN**

*(\*subject to change – 10 Aug, 2010)*

***This NDIA conference is a three day classified, US Only Secret event.***

***Therefore there will be no media, video recording and the audience will not be able to take notes.***

**Tuesday, August 10, 2010**

7:00 a.m. & 7:15 a.m. Attendee Shuttle Buses depart Bloomington Hotels for NSWC Crane  
*(attendees must sign-up for shuttle bus;  
shuttle sign-up is on a first-come/first-served basis")*

- Towne Place Suites / Fairfield Inn  
(bus to leave from Towne Place Suites parking lot)
- Hampton Inn

8:00a.m. – 8:45 a.m. Arrive NSA Crane Club Lakeview

- Attendee Registration Sign-in and security check-in continues

8:00 a.m. - 9:00 a.m. Continental Breakfast

- Lakeview Conference Center Foyer

9:00 a.m. - 9:10 a.m. **Security Briefing Overview**  
**NSWC Crane Security Officer, Mr. Kevin Gray *(confirmed)***

9:10 a.m. - 9:25 a.m. **"Setting the Scene," Welcome Remarks**  
**NSWC Crane Commanding Officer**  
**CAPT Charles LaSota, USN *(confirmed)***

9:25 a.m. - 9:40 a.m. **NSWC Crane Technical Director**  
**Mr. Duane Embree, USN (SES) *(confirmed)***

9:40 a.m. - 9:50 a.m. **NDIA Opening Remarks**  
**MG Barry D. Bates, USA (Ret.) *(confirmed)***  
**Vice President, Operations, NDIA**

9:50 a.m. - 10:30 a.m. **Guest Speaker: State of Indiana Governors Office**  
**Mr. Chad Pittman *(confirmed)***

10:30 a.m. – 10:45 a.m.	Coffee Break Lakeview Conference Center Foyer
10:45 a.m. – 11:30 a.m.	<b>USNORTHCOM Special Missions Perspective</b> <b>RDML Dan Abel, USCG, Deputy Director of Operations United States Northern Command</b> <i>(confirmed)</i>
11:30 a.m. – 1:00 p.m.	Networking Lunch Club Lakeview, Lower Floor / Tent buffet style
1:00 p.m. – 2:15 p.m.	<b>U.S. Strategic Command Panel; STRATCOM Forward Integration Team (SFIT) , non-kinetic effects ISO CENTCOM and SOCOM across all the lines of operation for STRATCOM</b> <ul style="list-style-type: none"> <li>• <b>COL Kevin Wright USA, USSTRATCOM / J39 Information Operations</b> <i>(confirmed)</i></li> <li>• <b>CDR Bryan Braswell USN, USSTRATCOM / J39 Chief, Cyberspace Operations Branch</b> <i>(confirmed)</i></li> <li>• <b>TBD</b></li> </ul>
2:15 p.m. – 2:30 p.m.	Networking Break Lakeview Conference Center Foyer
2:30 p.m. – 3:15 p.m.	<b>Guest Speaker: Mr. Greg Knapp (SES)</b> <i>(confirmed)</i> <b>Executive Director of the Joint Training Directorate and Joint Warfighting Center (J7/JWFC)</b>
3:15 p.m. – 4:00 p.m.	<b>Guest Speaker: Mr. Randy Weaver</b> <i>(confirmed)</i> <b>CTC Senior Director, Intelligence Analysis Programs</b> <b>"Intelligence Tools for Irregular Warfare: Spiral Analysis and Counter-Threat Finance"</b>
4:00 p.m. – 4:15 p.m.	<b>Day Closing Remarks, NDIA</b> <b>MG Barry D. Bates, USA (Ret.)</b> <i>(confirmed)</i>
4:15 p.m. – 7:00 p.m.	<b>Evening Social: NSA Crane Club Lakeview</b> <b>Southern Indiana Fish Fry</b>
7:00 p.m. – 7:15/30 p.m.	Return bus to Bloomington Hotels <i>(REMINDER: attendees must sign-up for shuttle bus; shuttle sign-up is on a first-come/first-served basis")</i>

**Wednesday, August 11, 2010**

7:00 a.m. & 7:15 a.m.	<p>Attendee Shuttle Buses depart Bloomington Hotels for NSWC Crane  <i>(attendees must sign-up for shuttle bus; shuttle sign-up is on a first-come/first-served basis)</i></p> <ul style="list-style-type: none"> <li>Towne Place Suites / Fairfield Inn  (bus to leave from Towne Place Suites parking lot)</li> <li>Hampton Inn</li> </ul>
8:00 a.m. – 8:45 a.m.	<p>Attendee Registration Sign-in and security check-in continues</p> <ul style="list-style-type: none"> <li>Lakeview Conference Center</li> </ul>
8:00 a.m. - 9:00 a.m.	<p>Continental Breakfast</p> <ul style="list-style-type: none"> <li>Lakeview Conference Center Foyer</li> </ul>
9:00 a.m. – 9:10 a.m.	<p><b>Security Briefing Overview</b>  <b>NSWC Crane Security Officer Kevin Gray</b> <i>(confirmed)</i></p>
9:10 a.m. - 9:20 a.m.	<p><b>Welcome and Administrative Remarks</b>  <b>CAPT Bruce Roulstone, USN (Ret)</b> <i>(confirmed)</i>  <b>NDIA Operations, Assistant Vice President</b></p>
9:20 a.m. – 10:00 a.m.	<p><b>Joint Irregular Warfare Capability Gaps</b>  <b>Major General David A. Morris, USA,</b> <i>(confirmed)</i>  <b>USJFCOM Joint Irregular Warfare Center (JIWC) Director</b></p>
10:00 a.m. – 10:15 a.m.	<p>Coffee Break</p> <ul style="list-style-type: none"> <li>Lakeview Conference Center Foyer</li> </ul>
10:15 a.m. – 11:00 a.m.	<p><b>Special Mission Science &amp; Technology</b>  <b>Guest Speaker: CAPT William Shepherd, USN (Ret.)</b> <i>(confirmed)</i>  <b>USSOCOM Director of Science &amp; Technology</b></p>
11:00 a.m. – 11:45 a.m.	<p><b>Muscatatuck Urban Training Center (MUTC) –  Complex Center of Operations (CCO)</b>  <b>Brigadier General Omer C. Tooley, USA</b> <i>(confirmed)</i></p>
11:45 a.m. – 1:00 p.m.	<p>Networking Lunch</p> <ul style="list-style-type: none"> <li>Club Lakeview, Lower Floor / Tent buffet style</li> </ul>
1:00 p.m. – 1:45 p.m.	<p><b>“Special Operations Gaps”</b>  <b>Keynote Address: VADM William H. McRaven, USN</b> <i>(confirmed)</i>  <b>Commander, Joint Special Operations Command</b></p>

1:45 p.m. – 2:30 p.m.	<b>Special Operations ISR Capabilities</b> <b>CAPT Gregory Kniff, USN (confirmed)</b> <b>USSOCOM J33 Joint Reconnaissance</b>
2:30 p.m. – 3:15 p.m.	<b>Navy's Vision for Confronting Irregular Challenges</b> <b>CDR Bruce Defibaugh, USN (confirmed)</b> <b>Strategy and Policy, Navy Irregular Warfare Office</b>
3:15 p.m. - 3:30 p.m.	Coffee Break <ul style="list-style-type: none"> <li>Lakeview Conference Center Foyer</li> </ul>
3:30 p.m. – 4:15 p.m.	<b>Guest Speaker: LTC Kenneth McCallister USA (Ret.) (confirmed)</b> <b>"Southern Indiana As A Test Bed"</b>
4:15 p.m. – 4:25 p.m.	<b>Day Closing Remarks</b> <b>CAPT Bruce Roulstone, USN (Ret) (confirmed)</b> <b>NDIA Operations, Assistant Vice President</b>
4:25 p.m. – 7:00 p.m.	<b>Evening Social: NSA Crane Club Lakeview</b> <ul style="list-style-type: none"> <li>Early / Late Return buses to Bloomington Hotels</li> </ul>
5:45 p.m. - 6:00 p.m.	Attendee Shuttle Buses return to Bloomington hotels <i>(Reminder: attendees must sign-up for shuttle bus; shuttle sign-up is on a first-come/first-served basis)</i> <ul style="list-style-type: none"> <li>Lakeview Conference Center</li> </ul>

#### **Thursday, August 12, 2010**

7:00 a.m. & 7:15 a.m.	Attendee Shuttle Buses depart Bloomington Hotels for NSWC Crane ( <i>attendees must sign-up for shuttle bus; shuttle sign-up is on a first-come/first-served basis</i> ) <ul style="list-style-type: none"> <li>Towne Place Suites / Fairfield Inn (bus to leave from Towne Place Suites parking lot)</li> <li>Hampton Inn</li> </ul>
8:00 a.m. – 8:45 a.m.	Attendee Registration Sign-in and security check-in continues <ul style="list-style-type: none"> <li>Lakeview Conference Center</li> </ul>
8:00 a.m. - 9:00 a.m.	Continental Breakfast

- Lakeview Conference Center Foyer

9:00 a.m. – 9:10 a.m.	<b>Security Briefing Overview</b> <b>NSWC Crane Security Officer, Mr. Kevin Gray</b> <i>(confirmed)</i>
9:10 a.m. - 9:20 a.m.	<b>Welcome and Administrative Remarks</b> <b>CAPT Bruce Roulstone, USN (Ret)</b> <i>(confirmed)</i> <b>NDIA Operations, Assistant Vice President</b>
9:20 a.m. – 10:00 a.m.	<b>Maritime &amp; Littoral Operations</b> <b>Commander, Navy Expeditionary Combat Command (NECC) NAVCENT Task Force 56, CAPT Vincent Martinez,</b> <i>(confirmed)</i>
10:00 a.m. – 10:40 a.m.	<b>Navy Maritime &amp; Littoral Efforts</b> <b>Program Executive Office Littoral and Mine Warfare Executive Director, Mr. Victor Gavin, (SES)</b> <i>(confirmed)</i>
10:40 a.m. - 10:55 a.m.	Coffee Break <ul style="list-style-type: none"> <li>▪ Lakeview Conference Center Foyer</li> </ul>
10:55 a.m. – 11:35 a.m.	<b>Guest Speaker: ONR Director for Combating Terrorism and Enterprise Integration, Mr. James McMains,</b> <i>(confirmed)</i>
11:35 a.m. – 12:30 p.m.	Networking Lunch <ul style="list-style-type: none"> <li>• Club Lakeview, Lower Floor / Tent buffet style</li> </ul>
12:30 p.m. – 1:10 p.m.	<b>Special Topics / Working together to bridge the gap</b> <b>Guest Speaker: “SKOPE” Overview and Countering the IED Threat</b> <b>LTC Al Di Leonardo, USA, Director, SKOPE Cell,</b> <i>(confirmed)</i> <b>U.S. Army, U.S. Special Operations Command</b>
1:10 p.m. – 1:50 p.m.	<b>Guest Speaker: Center for Stabilization and Development’s “Crowded House” effort</b> <b>Mr. James Schmitt, Creative Associates International,</b> <i>(confirmed)</i>
1:50 p.m. – 2:00 p.m.	Coffee Break <ul style="list-style-type: none"> <li>▪ Lakeview Conference Center Foyer</li> </ul>
2:00 p.m. – 2:40 p.m.	<b>Information Technology collaboration; Linking Intelligence, Surveillance and Reconnaissance Operations</b> <b>Representative from Multi-Agency Collaboration Environment (MACE), Mr. Robert A Piccerillo,</b> <i>(confirmed)</i>

2:40 p.m. - 3:00 p.m.	<b>Special Missions Conference highlights roll up, and introduction for Closing Speaker NSWCC Crane Commanding Officer, CAPT Charles LaSota, (confirmed)</b>
3:00 p.m. – 3:40 p.m.	<b>Closing Speaker; Director, Combating Terrorism Technical Support Office, OASD (SO/LIC&amp;IC), Mr. Doug Cavileer (SES) (confirmed)</b>
3:40 p.m. – 3:50 p.m.	<b>Closing Remarks &amp; Symposium Adjourned MG Barry D. Bates, USA (Ret.) (confirmed) Vice President, Operations, NDIA</b>
3:50 p.m. - TBD	Attendee Shuttle Buses return to Bloomington hotels (REMINDER: attendees must sign-up for shuttle bus; shuttle sign-up is on a first-come/first-served basis") <ul style="list-style-type: none"> <li>• Towne Place Suites / Fairfield Inn (bus to leave from Towne Place Suites parking lot)</li> <li>• Hampton Inn</li> </ul>

**ALL CONFERENCE SESSIONS ARE  
CLASSIFIED: (SECRET U.S. ONLY)**

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#### "SECURITY PROCEDURES - INFORMATION FOR VISIT REQUESTS

The Security Access List will be compiled by the NSWCC Crane, Mission Security Branch. Attendees (including NSWCC Crane employees) should initiate a visit request via JPAS/JCAVS using SMO code 00164 and Steve Clark as the POC.

The deadline to submit visit requests is COB 6-August-2010. Participants whose names do not appear on the Security Access List will not be admitted to NSWCC Crane, IN. Your clearance must be awarded by your SMO, eligibility without actual award is insufficient.

#### \*\*\*LATE AND/OR ON-SITE REGISTRATION (SPACE PERMITTING):

There is a possibility that registration may be closed early due to capacity limitations and that late and/or on-site registration may not be offered. We sometimes sell out and must close registration early; we strongly suggest you register early for this unique event.

If you **DO NOT** have a DoD CAC or retiree card, you will need a classified visit request and instructions to drive around to the Crane gate.

You **CAN NOT** follow the conference shuttle bus in (onto the base).

A faint, light blue world map is visible in the background, centered behind the title text.

# ***Joint Irregular Warfare Center***

UNCLASSIFIED

**MG David A. Morris**  
**Director**  
**11 August 2010**

# *Today's Joint Operating Environment*

**CONVENTIONAL**

**IRREGULAR**

**DISRUPTIVE**

*Hybrid  
Threats*

**CATASTROPHIC**

As defense scholars have noted, these hybrid scenarios combine the “lethality of state conflict with the fanatical and protracted fervor of irregular warfare.” Where “Microsoft coexists with machetes, and stealth ... is met by suicide bombers.”

Secretary Gates, November 2008



**UNCLASSIFIED**

# ***USJFCOM Joint Irregular Warfare Center***

**Mission:** Lead, coordinate and integrate efforts across USJFCOM, the Department of Defense, and other partners to ensure the abilities to conduct Irregular Warfare and Urban Operations are core competencies of the Joint Force.

## **DoD Directive for IW Specified Tasks to USJFCOM (DoDD 3000.07)**

- Lead the identification of joint-IW relevant capabilities and recommend priorities for capability development
- Lead development of joint standards for GPF IW-relevant training and readiness
- Identify tracking requirements for critical IW skills
- Submit an annual assessment of General Purpose Force IW proficiency and readiness s



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# ***IW Assessment Focus Areas***

***(Not in priority order)***

<b>ISR Processing, Exploitation and Dissemination</b>	<b>2009 Assessment</b>
<b>Information Sharing with Partners</b>	<b>2009 Assessment</b>
<b>Strategic Communication &amp; Information Ops</b>	<b>2009 Assessment</b>
<b>Civil Affairs</b>	<b>2009 Assessment</b>
<b>Civilian/Military Teaming</b>	<b>2009 Assessment</b>
<b>Aviation IW Capabilities</b>	<b>2009 Assessment/2010 Analysis</b>
<b>C-IED Organization and Doctrine</b>	<b>2009 Assessment/2010 Analysis</b>
<b>Language Regional Expertise and Culture (LREC)</b>	<b>2009 Assessment/2010 Analysis</b>
<b>Maritime Capabilities</b>	<b>2009 Assessment/2010 Analysis</b>
<b>Enabler Support</b>	<b>2009 Assessment/2010 Analysis</b>
<b>Professional Military Education (PME)</b>	<b>2009 Assessment/2010 Analysis</b>
<b>Counter Threat Finance (CTF)</b>	<b>2010 Analysis</b>
<b>CYBER</b>	<b>2010 Analysis</b>
<b>COIN</b>	<b>2010 Analysis</b>
<b>Joint Urban OPS</b>	<b>2010 Analysis</b>
<b>Biometrics</b>	<b>2010 Analysis</b>
<b>HUMINT</b>	<b>2010 Analysis</b>
<b>Personnel Recovery (PR)</b>	<b>2010 Analysis</b>
<b>SOF/GPF Integration</b>	<b>2010 Analysis</b>



**UNCLASSIFIED**

# *Enabling Success through Institutionalized*



**D**octrine

**O**rganization

**T**raining

**M**ateriel

**L**eadership & Education

**P**ersonnel

**F**acilities

**P**olicy





# INDIANA

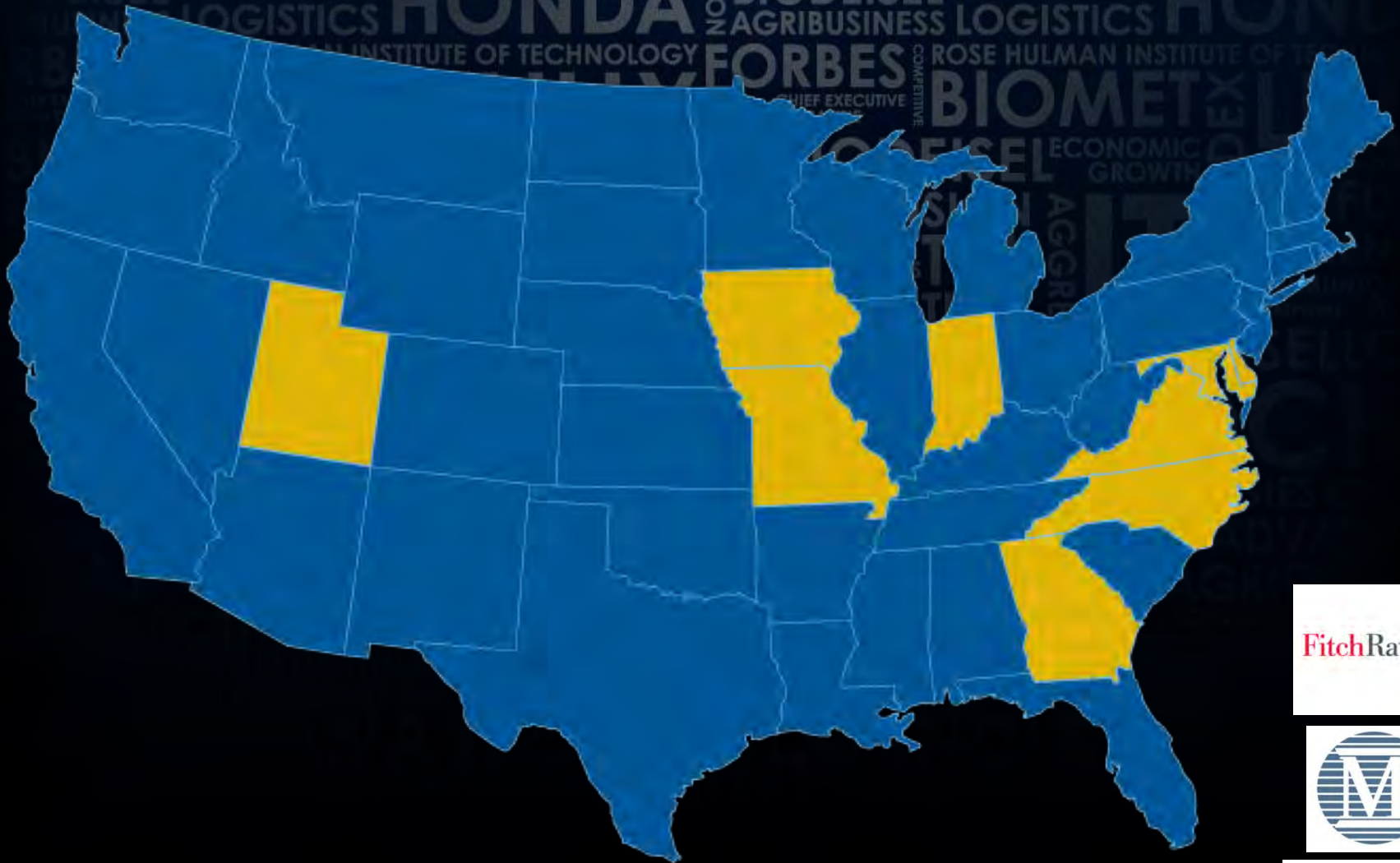
ENGINEERING EXCELLENCE

# NATIONAL SECURITY

National Security-related industries employ over **61,000** Hoosiers with **ACTIVE** military installations, including Camp Atterbury, Muscatatuck Urban Training Center, Grissom Air Reserve Base and NSWC Crane



# AAA Bond Rating – Best in History



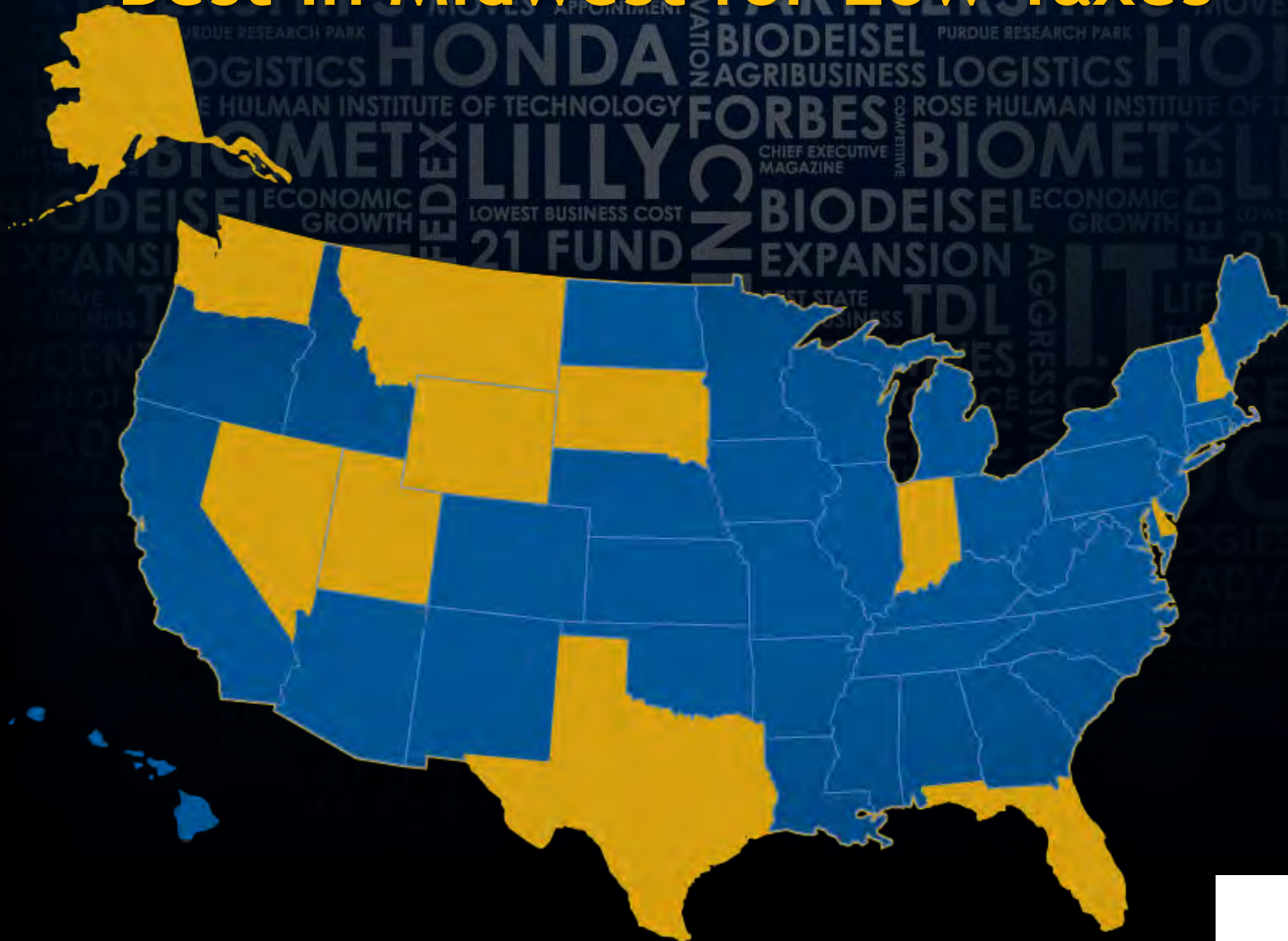
FitchRatings



STANDARD  
& POOR'S

One of 9 States with top bond rating from all three major credit rating agencies

# Best in Midwest for Low Taxes

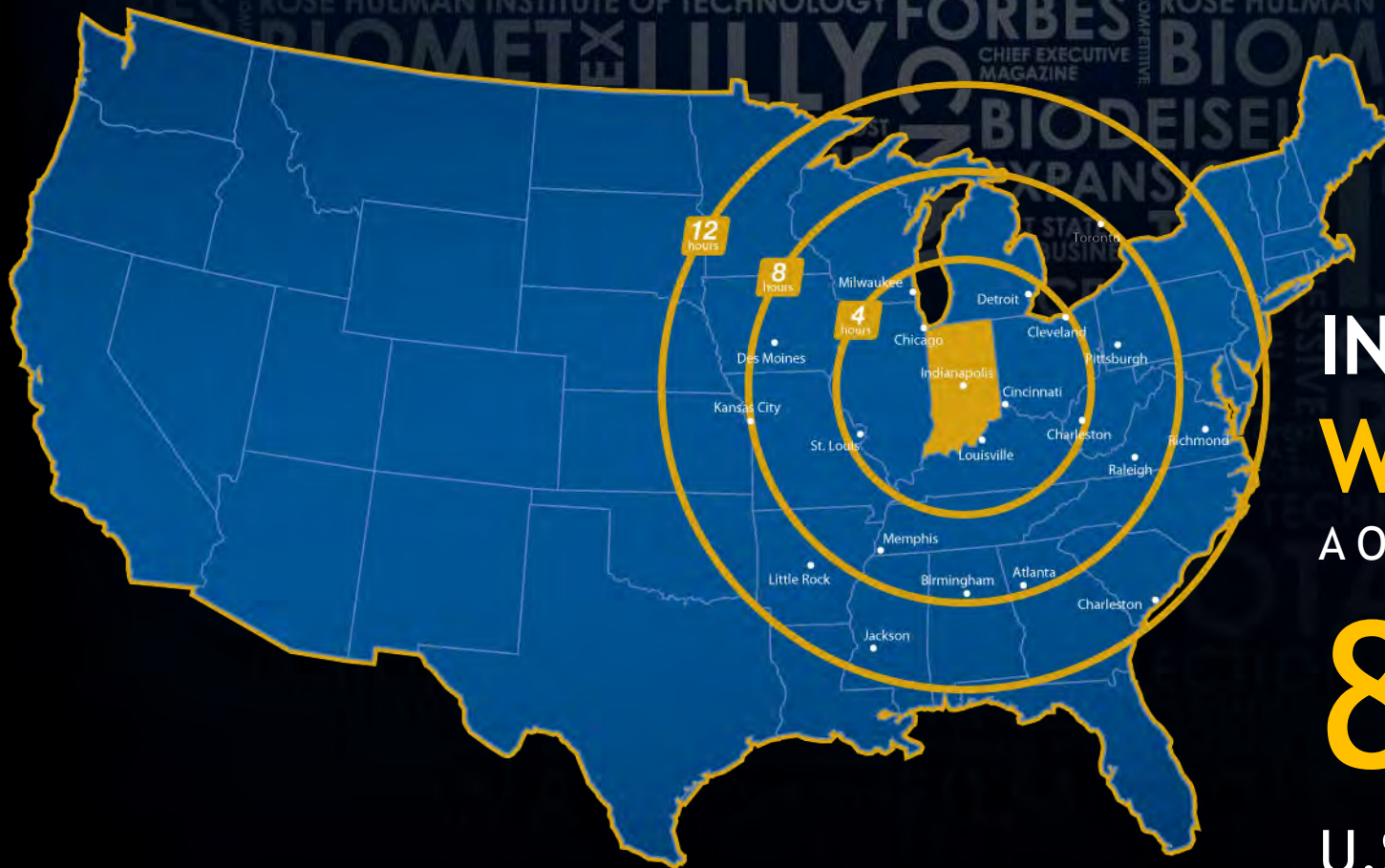


First in the Midwest and 12th nationally (up from 14<sup>th</sup> in 2008)

- Illinois (30<sup>th</sup>), Kentucky (20<sup>th</sup>), Michigan (17<sup>th</sup>), Ohio(47<sup>th</sup>)

## A map of the United States with state boundaries outlined in white. Four states are highlighted in yellow: Wyoming, Nebraska, Indiana, and Tennessee. The rest of the states are colored blue.

Source: *Enterprising States* by the U.S. Chamber of Commerce and National Chamber Foundation  
May 2010



**INDIANA** is...  
**WITHIN**  
A ONE-DAY DRIVE of  
**80%** OF  
THE  
U.S. POPULATION

Indiana's logistics industry employs over  
**250,000** workers & moves more than  
**720 MILLION TONS**  
of freight annually.

INDIANA *has...*

11,000

TOTAL  
HIGHWAY  
MILES

and is intersected by eight interstate highways  
- more than any other state in the nation.

44

COLLEGES  
AND UNIVERSITIES

totaling

76

campuses around the state

- 15 four-year campuses
- 25 two-year campuses
- 36 private campuses

INDIANA IS HOME TO LEADING RESEARCH UNIVERSITIES

INDIANA UNIVERSITY

PURDUE UNIVERSITY

ROSE-HULMAN

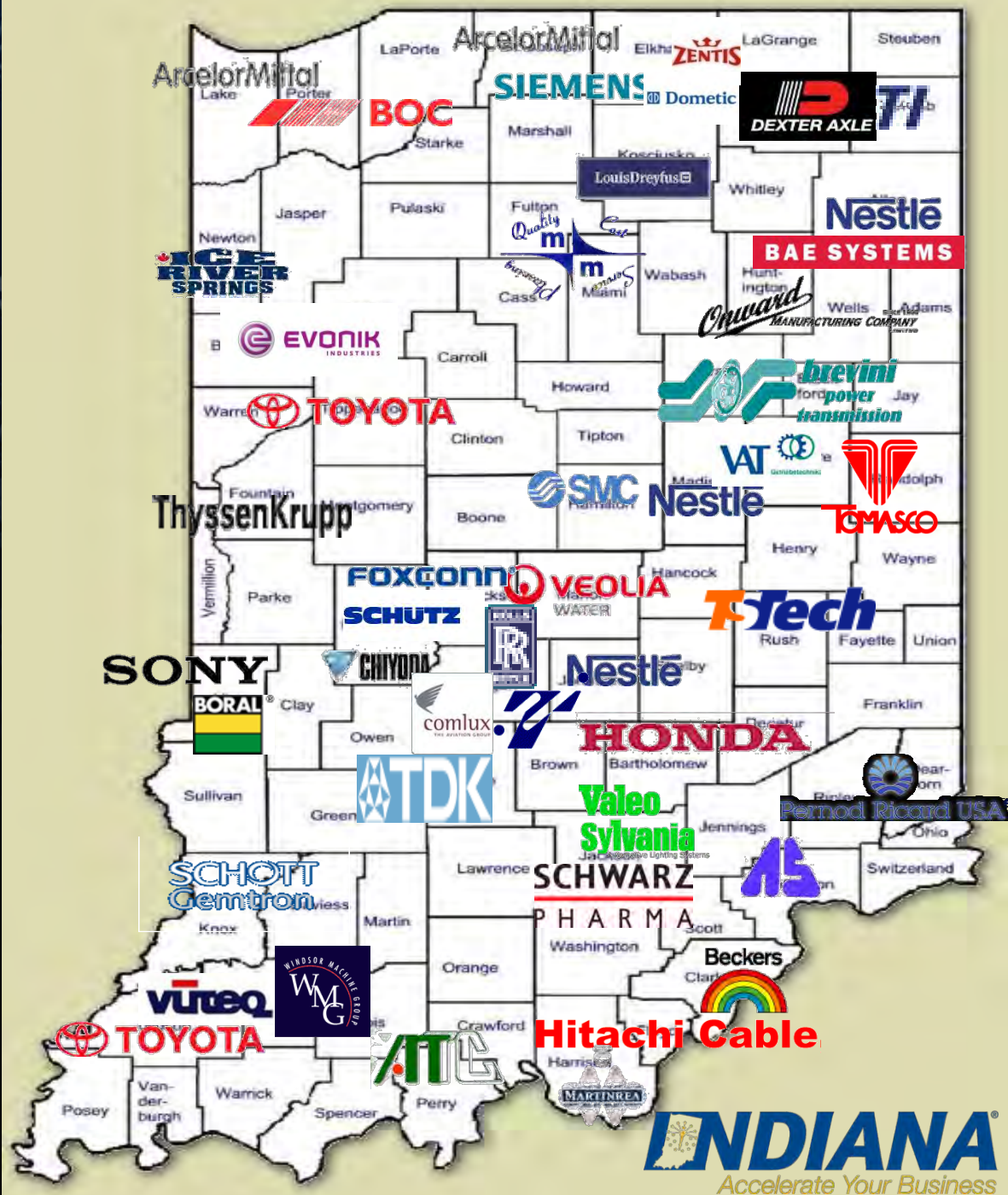
UNIVERSITY OF NOTRE DAME

# In-Sourcing Jobs

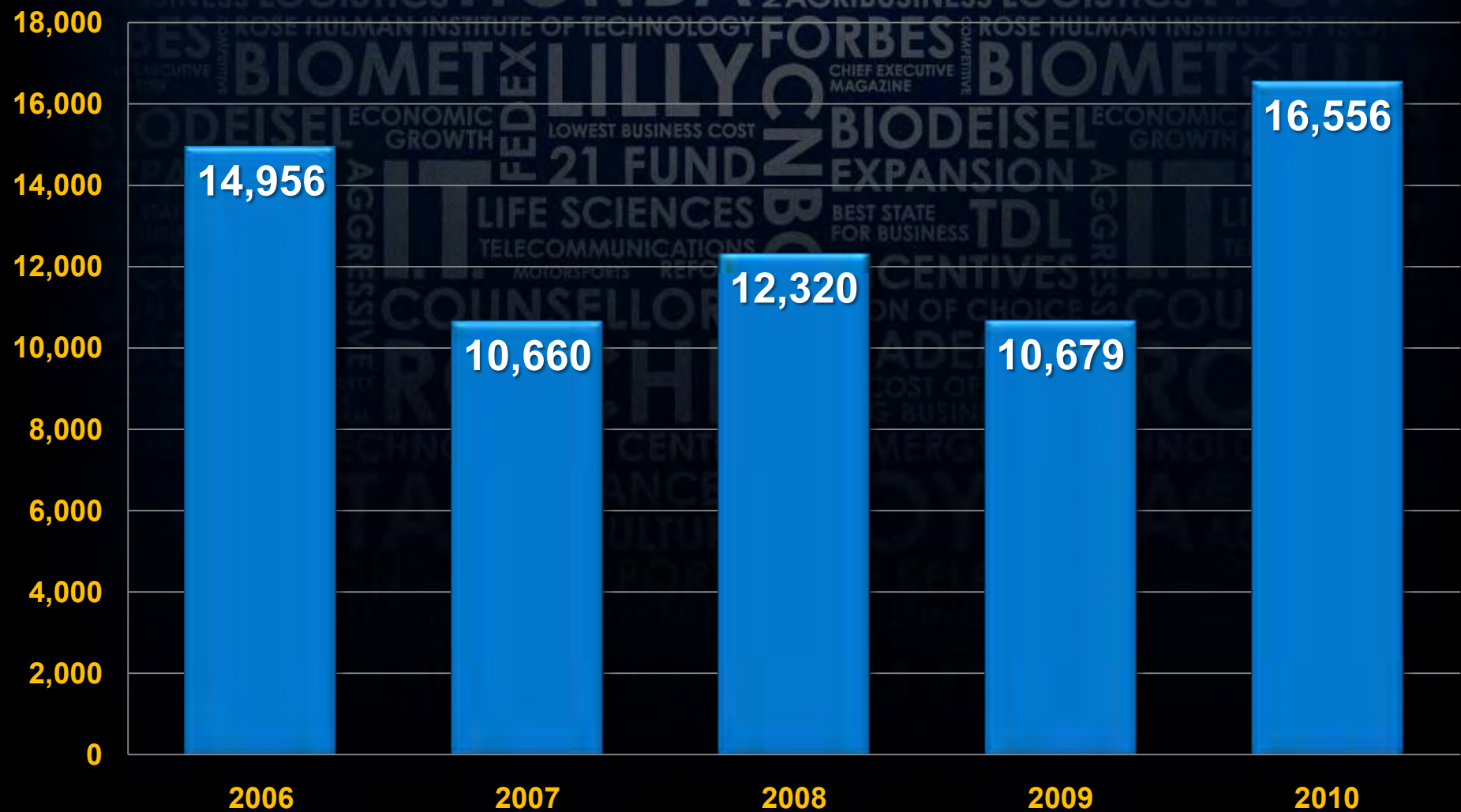
More than 17,400  
new jobs & \$8 billion  
in new investment  
from FDI since 2005

Second in the nation  
per capita for  
attraction  
of jobs through FDI

*(2009 IBM Global  
Location Trends )*



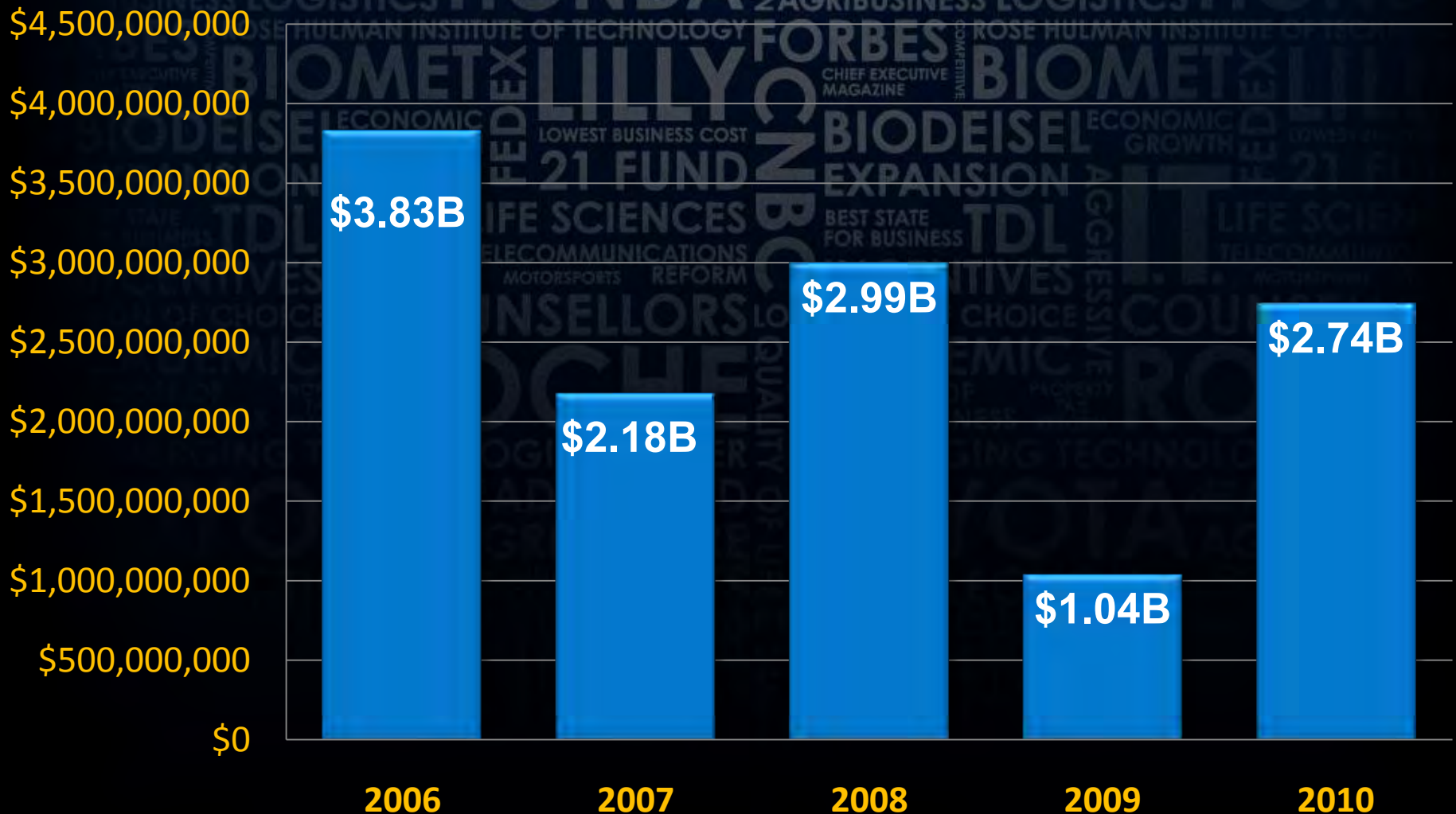
# Job Commitments Year-to-Date



• As of 8/9/2010

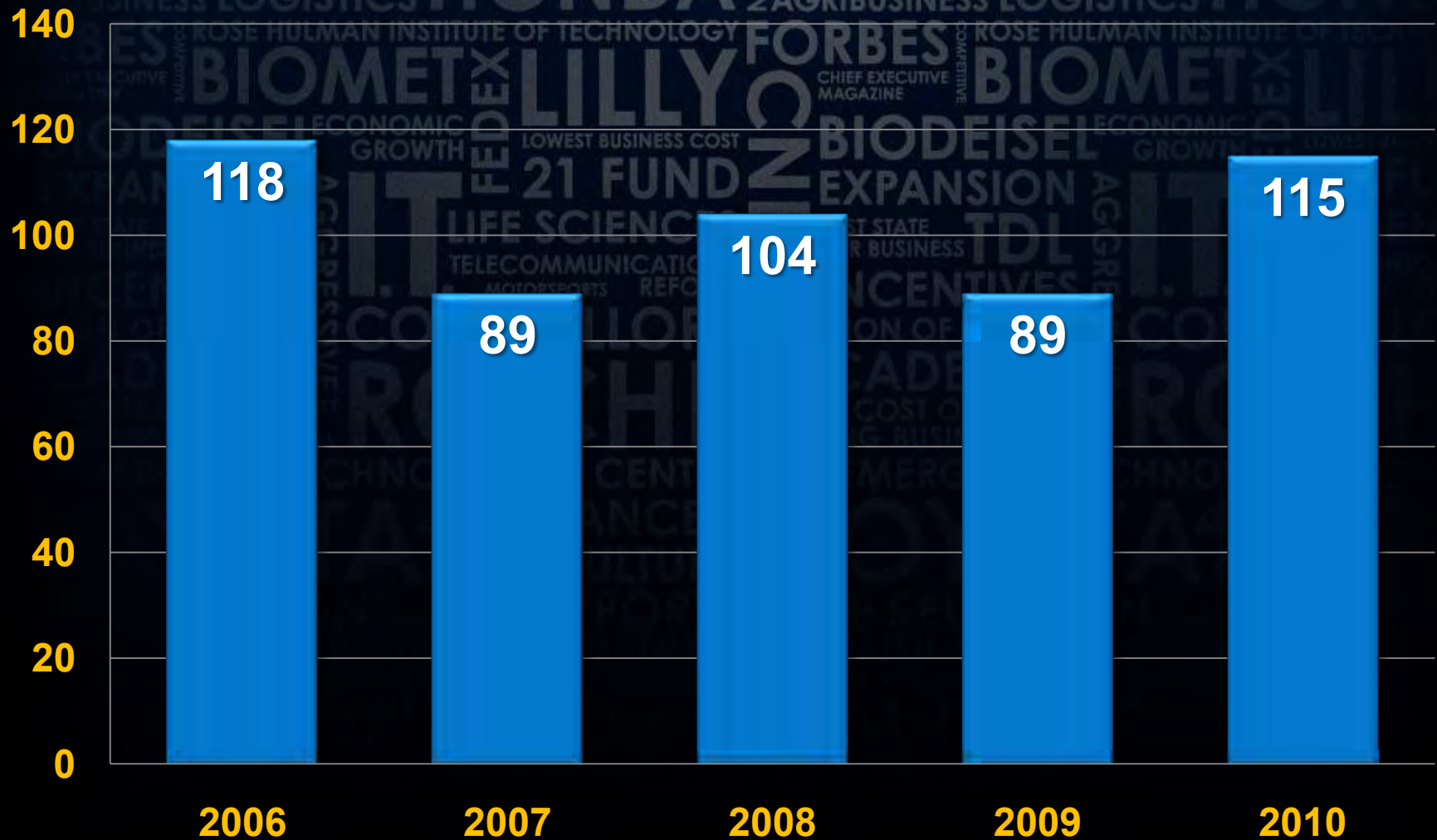


# New Investment Year-to-Date



• As of 8/9/2010

# Project Volume Year-to-Date



• As of 8/9/2010

# THE WALL STREET JOURNAL.

## States See Growth in Jobs

Upturn Slowly Spreads to Service-Heavy Coasts From Industrial South, Midwest

By CONOR DOUGHERTY

The sluggish U.S. jobs recovery is inching beyond the industrial South and Midwest, and is spreading toward the service-heavy economies of the two coasts, in a sign of hope for a labor force hit by the worst recession in generations.

New Labor Department data, released Friday, showed that the decline in unemployment was widespread: The jobless rate fell last month from April in 37 states, plus the District of Columbia.

"The recovery has spread out," said Steven Cochrane, an economist at Moody's Analytics.

The U.S. has added nearly a million jobs since the trough of the recession in December 2009, including some temporary Census Bureau jobs that will soon disappear. The gains have been uneven. States with big manufacturing and natural-resource sectors like Texas and Indiana have enjoyed steady growth, while states like Nevada, where the housing bust was especially dire, have lagged badly.

Indeed, Nevada had the nation's highest jobless rate last month at 14%, the first time since April 2006 that a state other than Michigan has held that distinction.

To be sure, much of May's increase in jobs resulted from the

### Recovery Scorecard

States that have added jobs outside of government fastest this year. All figures are for nongovernmental jobs





INDIANA

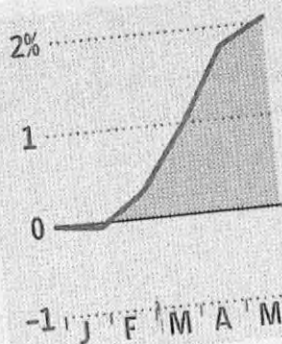
2.1%

Job gain in 2010

2.37M Total jobs in May

Change  
in 2010

13.9%	Administrative and support*	6.9%
5.7	Educational services	3.0
4.5	Mining and logging	0.3
4.5	Durable goods manufacturing	13.2
3.9	Accommodation and food services	10.1



Share of total  
jobs, May



Indiana has seen the largest percentage increase in jobs through the year, rising 1.9% on a surge in manufacturing jobs. Illinois, Pennsylvania and Minnesota—all big in manufacturing—were among the top 20 states in terms of job gains, each with job increases of 1.2% or greater.



#### Change this year in total jobs, not including government positions

Mass.	1.3%	Hawaii	1.0%	Conn.	0.7%	Mich.	0.1%
Md.	1.2	N.Y.	0.9	Fla.	0.5	Ga.	unch.
Tenn.	1.2	La.	0.9	Calif.	0.5	Idaho	unch.
Minn.	1.1	Alaska	0.9	S.C.	0.3	Maine	unch.
Pa.	1.1	Kansas	0.8	Miss.	0.3	N.J.	-0.1
Ill.	1.1	Ala.	0.8	Ark.	0.2	Ore.	-0.2
Iowa	1.1	Ariz.	0.7	N.C.	0.2	R.I.	-0.5
W.Va.	1.0	Neb.	0.7	N.H.	0.2	Colo.	-0.6
N.D.	1.0	Ohio	0.7	Mont.	0.1	Nev.	-1.0
Wash.	1.0	Ky.	0.7	S.D.	0.1	Vt.	-1.4
Wisc.	1.0	Okla.	0.7	Mo.	0.1	N.M.	-1.6

\*Includes waste-management and remediation services, but in Indiana and in many states, most of the jobs were added in administration and support, with the majority in employment services

Source: Labor Department

# Competitive Consolidations

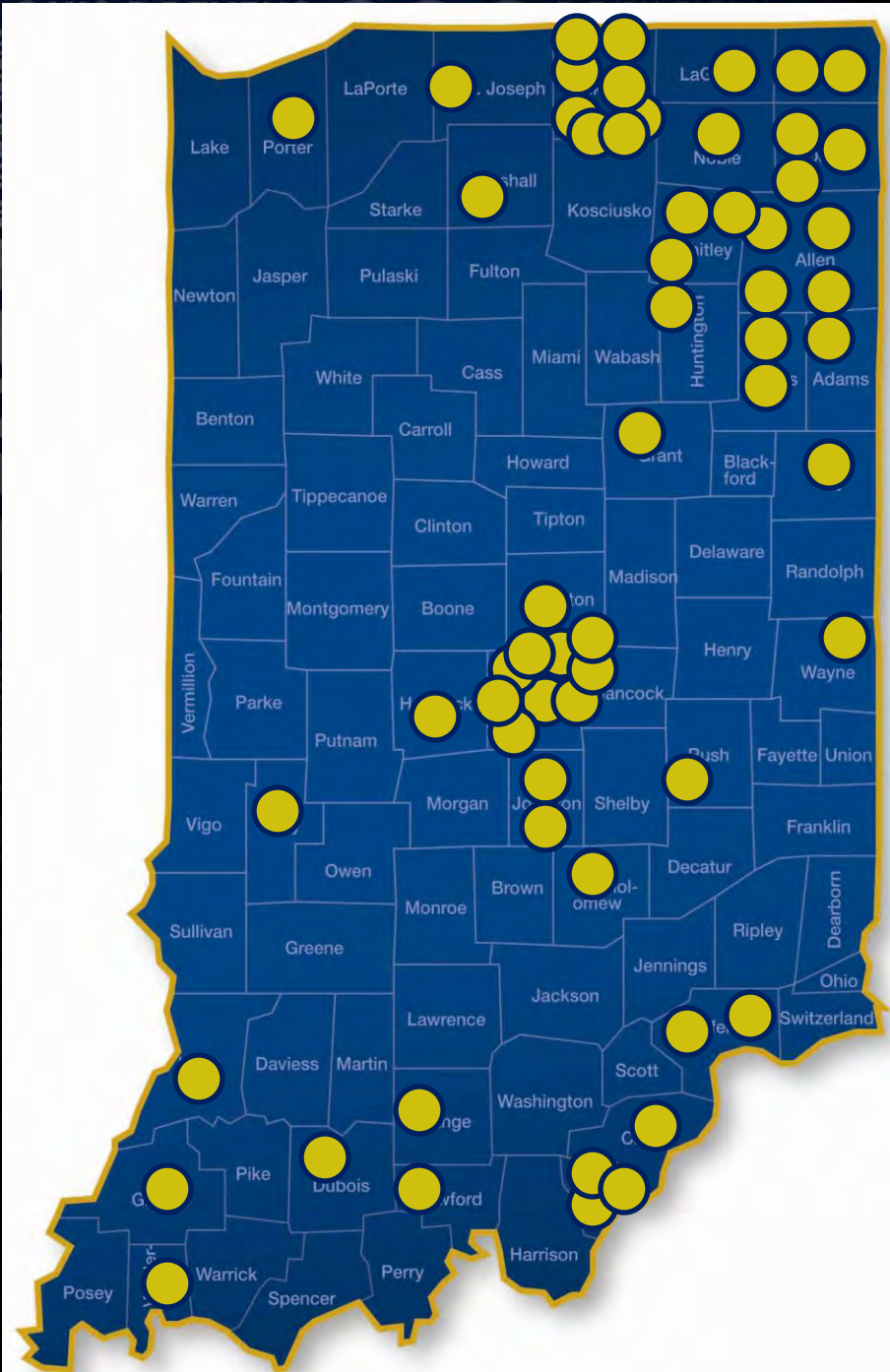
- 62 Consolidations

- 10,065 Job Commitments

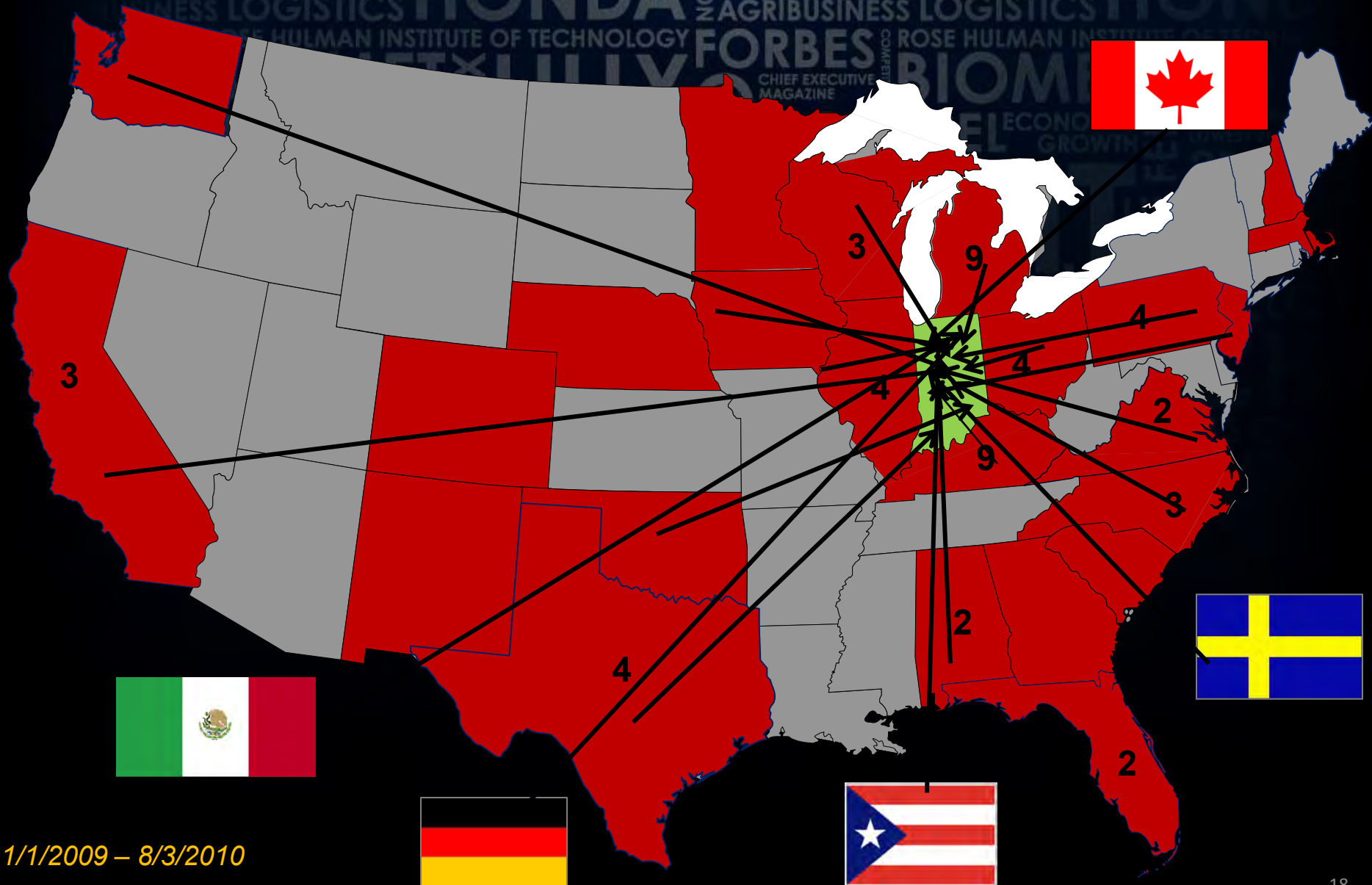
- 14,284 Jobs Retained\*

- \$348M in Committed Capital Investment

01/01/09 – 08/3/10



# Consolidating into Indiana



1/1/2009 – 8/3/2010

# GOVERNMENT FACILITIES: MIDWEST

## 1. Wright Patterson AFB

(2 hr. 12 min. drive time from Indy)

One of the largest, most diverse, and organizationally complex bases in the Air Force.

## 2. Defense Supply Center

(3 hr. 8 min. drive time from Indy)

One of 3 inventory control points of the Defense Logistics Agency (DLA).

## 3. Ft. Knox

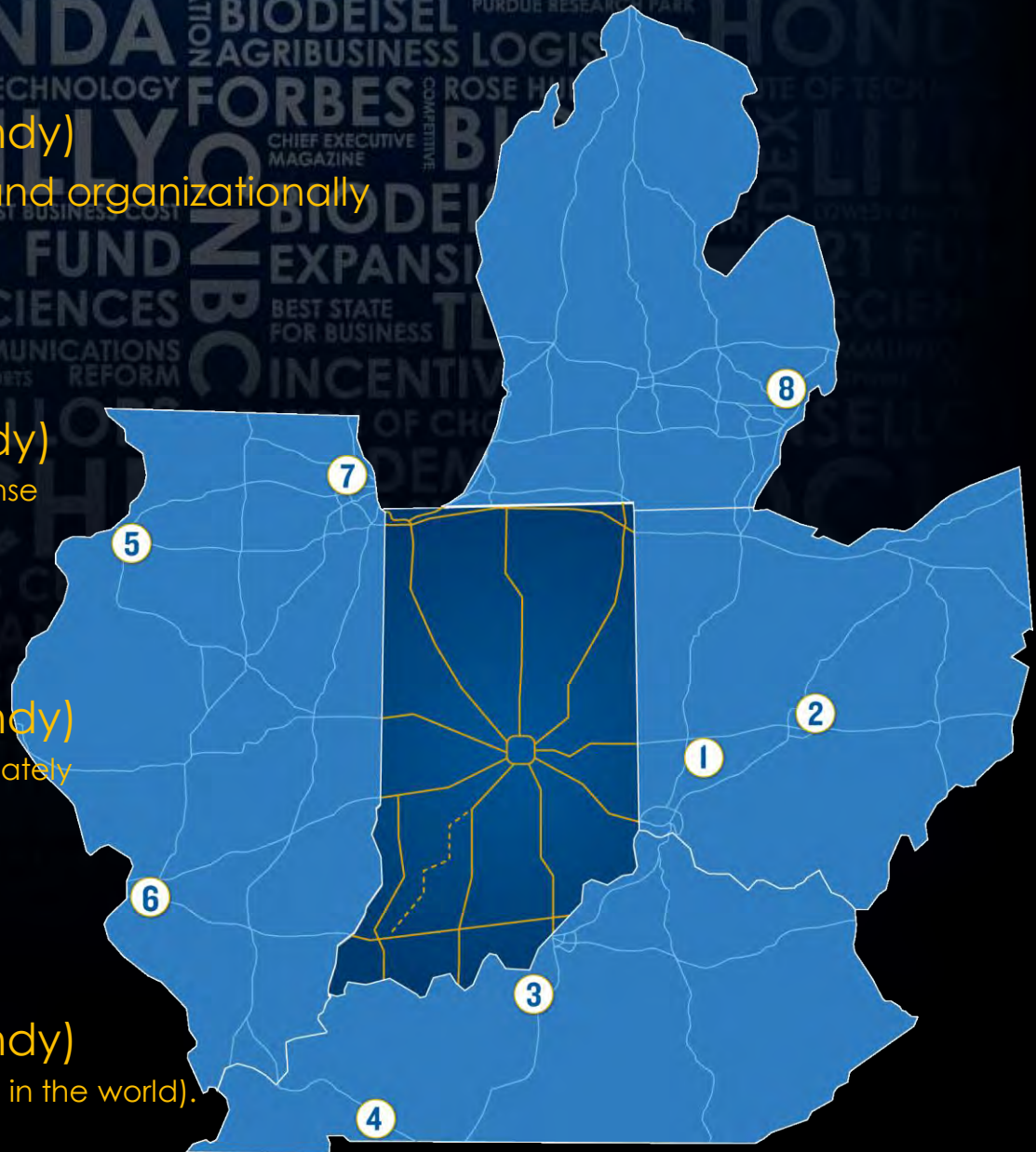
(2 hr. 41 min. drive time from Indy)

Army Human Resource Command. Approximately 3,400 personnel stationed at Ft. Hood will be relocated to Ft. Knox due to BRAC.

## 4. Ft. Campbell

(5 hr. 45 min. drive time from Indy)

101<sup>st</sup> Airborne Division (only Air Assault division in the world).



# GOVERNMENT FACILITIES: MIDWEST

## 5. Rock Island Arsenal

(5 hr. 18 min. drive time from Indy)

1<sup>st</sup> Army Headquarters and Munitions Command.

## 6. Scott AFB

(4 hr. 23 min. drive time from Indy)

US Transportation Command, US Army Surface Deployment and Distribution Command, Air Mobility Command. Eighteenth Air Force.

## 7. Naval Station Great Lakes

(3 hr. 47 min. drive time from Indy)

Navy's Headquarters Command for Training.

## 8. TACOM

(5 hr. 12 min. drive time from Indy)

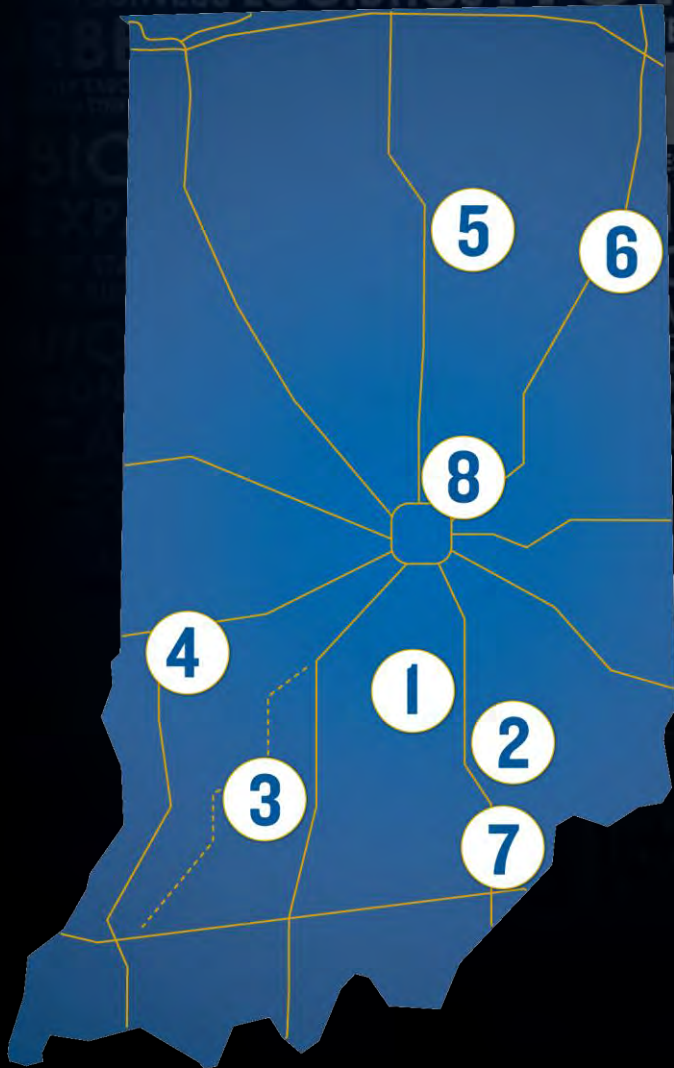
As partners with the Army's Program Executive Offices, TACOM is one of the Army's largest weapons systems research, development, and sustainment organizations at the forefront of the Army's transformation to a lighter, more lethal, and survivable force.



# Notable Research Labs in the Midwest

- **Department of Energy Laboratories**
  - Argonne National Laboratory
  - Fermi National Accelerator Laboratory
- **NASA**
  - Glenn Research Center in Ohio.
- **TACOM**
  - Tank Automotive Research, Development and Engineering.
- **Naval Station Great Lakes**
  - Center for: Surface Combat Systems, Naval Engineering, EOD and Drive, Naval Leadership, Personal Development, and Service Support.
- **Wright Patterson Air Force Base is home to:**
  - the Major USAF Medical Center
  - Air Force Institute of Technology
  - Sensors Center of Excellence
  - the HQ for the Aeronautical Systems Center and the Air Force Research Laboratory
  - Propulsion Directorate

# GOVERNMENT FACILITIES: INDIANA



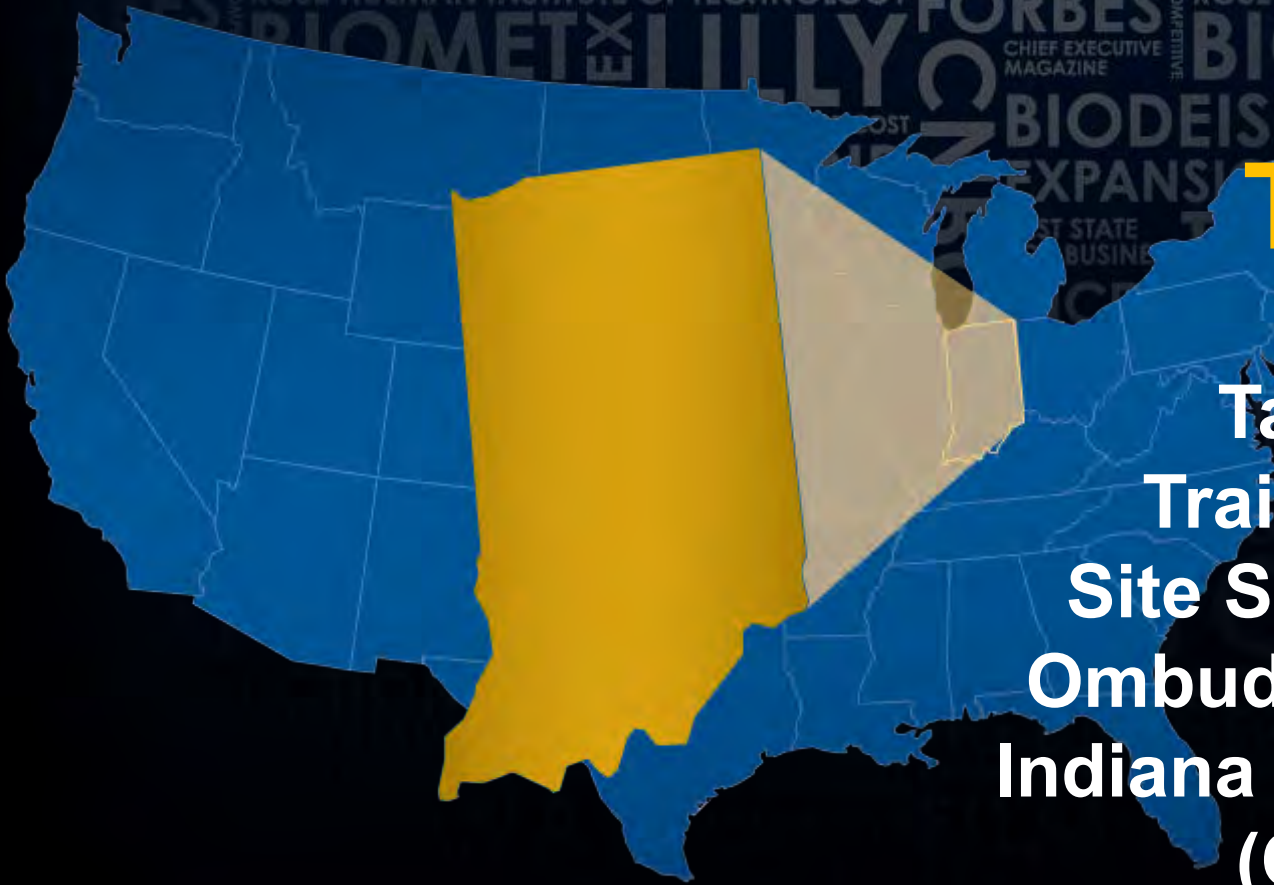
1. Camp Atterbury
2. Muscatatuck Urban  
Training Center
3. Crane, Naval Support Center
4. International Hulman Field
5. Grissom Air Reserve Base
6. Fort Wayne International  
Airport Air Guard Station
7. Indiana Army  
Ammunition Plant
8. Defense Finance and  
Accounting Services

Note: Lines in the map are interstates

# Major Indiana Contractors

1. AM General – South Bend, IN
2. Rolls Royce – Indianapolis, IN
3. SAIC – Crane, IN
4. ITT – Fort Wayne, IN
5. General Dynamics – Fort Wayne, IN
6. Northrop Grumman – Fort Wayne, IN
7. BAE – Fort Wayne, IN
8. Cummins – Columbus, IN
9. GE Defense – Cincinnati, OH
10. Babcock & Wilcox – Mt. Vernon, IN





# Tools:

## 21 Fund

# Tax Credits

# Training Grants

# Site Selection Tools

# Ombudsman Services

# Indiana Supplier Insight (Conexus)

**Chad Pittman**  
**Executive Vice-President**  
**Indiana Economic Development Corp.**  
**(317) 233-4459**  
**[cpittman@iedc.in.gov](mailto:cpittman@iedc.in.gov)**





# ***NDIA Special Missions Symposium***

***Mr. Victor S. Gavin  
Executive Director  
Littoral and Mine Warfare***



# Role, Products & Services

- Originally established in 1992 as PEO Mine Warfare (PEO MIW)
- Realigned as *PEO Littoral and Mine Warfare (PEO LMW)* OCT 2002 assigning increased responsibility for Undersea and Littoral Warfare programs
- PEO LMW designs, delivers and maintains the systems, equipment and weapons needed by the warfighter to dominate the littoral battle space and provide the *Warfighter Assured Access!*

18 years of  
"culture"

Naval  
Special  
Warfare  
PMS 340  
CAPT(s) T.  
Gajewski



SOCOM

Anti-Terrorism/  
Force Protection  
(Afloat)  
PMS 480  
CAPT J. Day



C-IED and  
EOD  
PMS 408  
CAPT J.  
Neagley



NECE

Maritime  
Surveillance  
Systems  
PMS 485  
CAPT J. Ferrer



Unmanned  
Maritime  
Vehicle Systems  
PMS 406  
CAPT D. Ashton



USE

Remote  
Mine Hunting  
System  
PMS 403  
Mr. Steven  
Lose



Mine Warfare  
Systems  
PMS 495  
Ms. D Carson-  
Jelley



LCS Mission  
Packages  
PMS 420  
CAPT J.  
Ailes

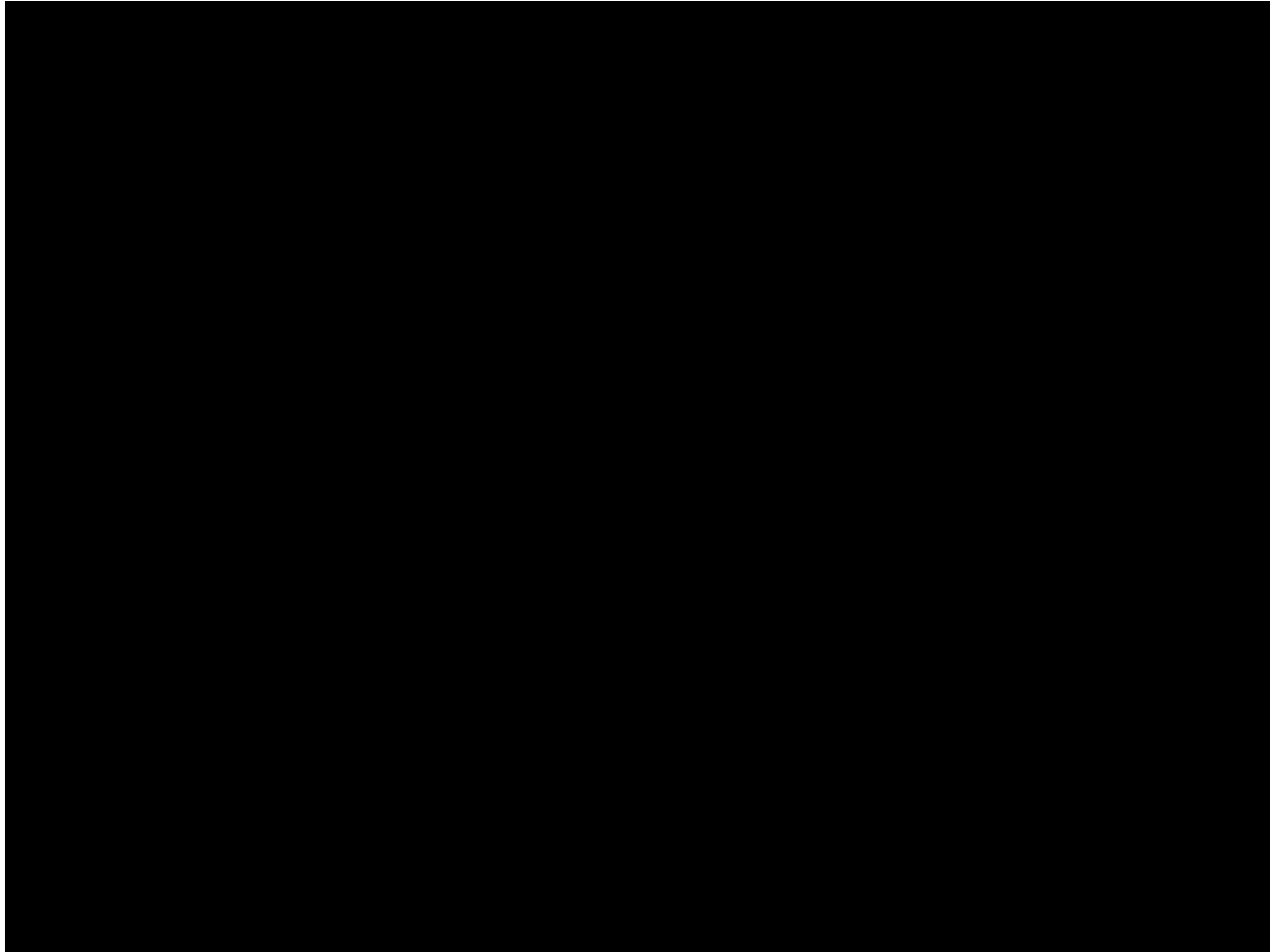


SWE



# ***PEO LMW – This is Who We Are***

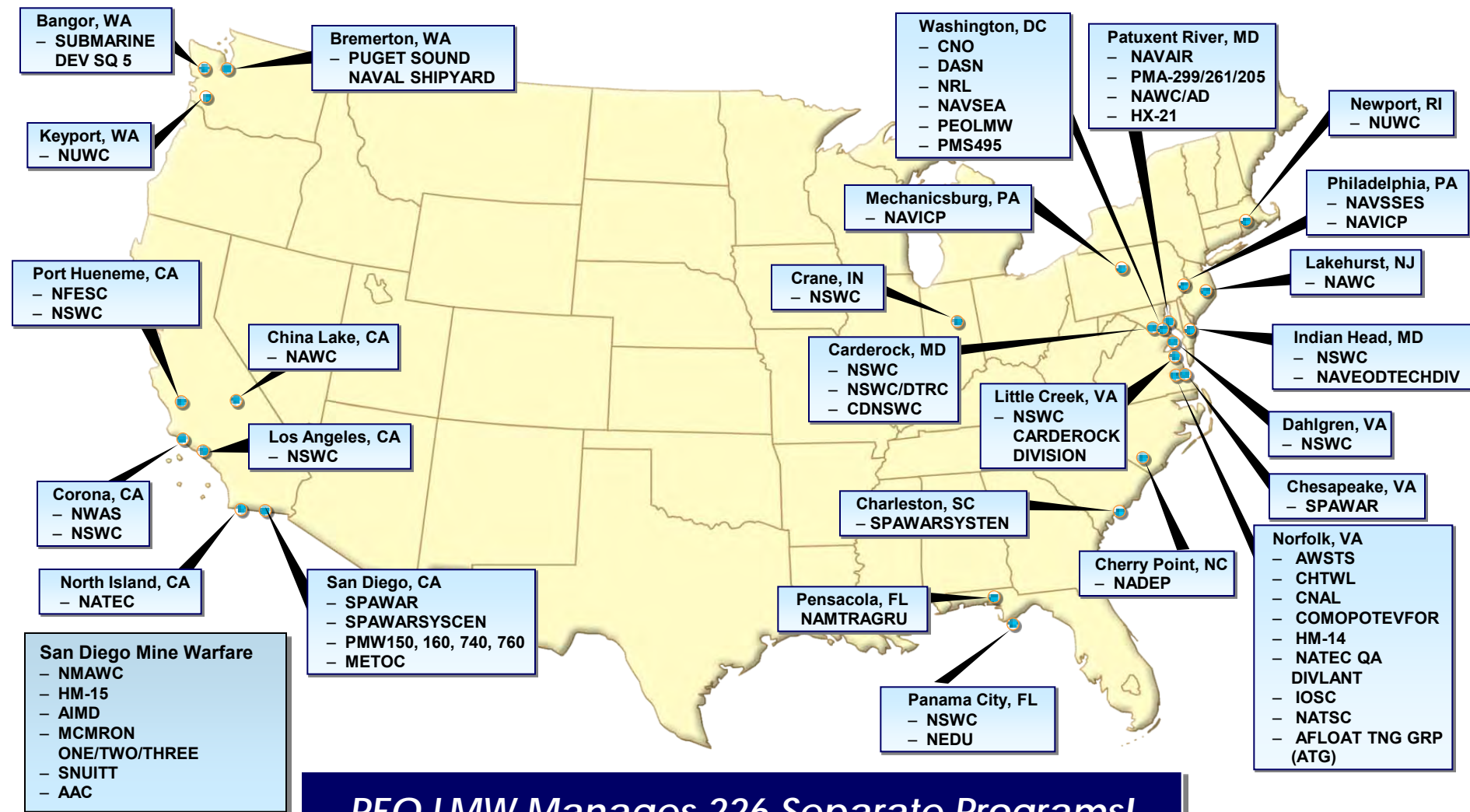
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# PEO LMW Government Partners

Working with Government activities in 11 different states and the District of Columbia.

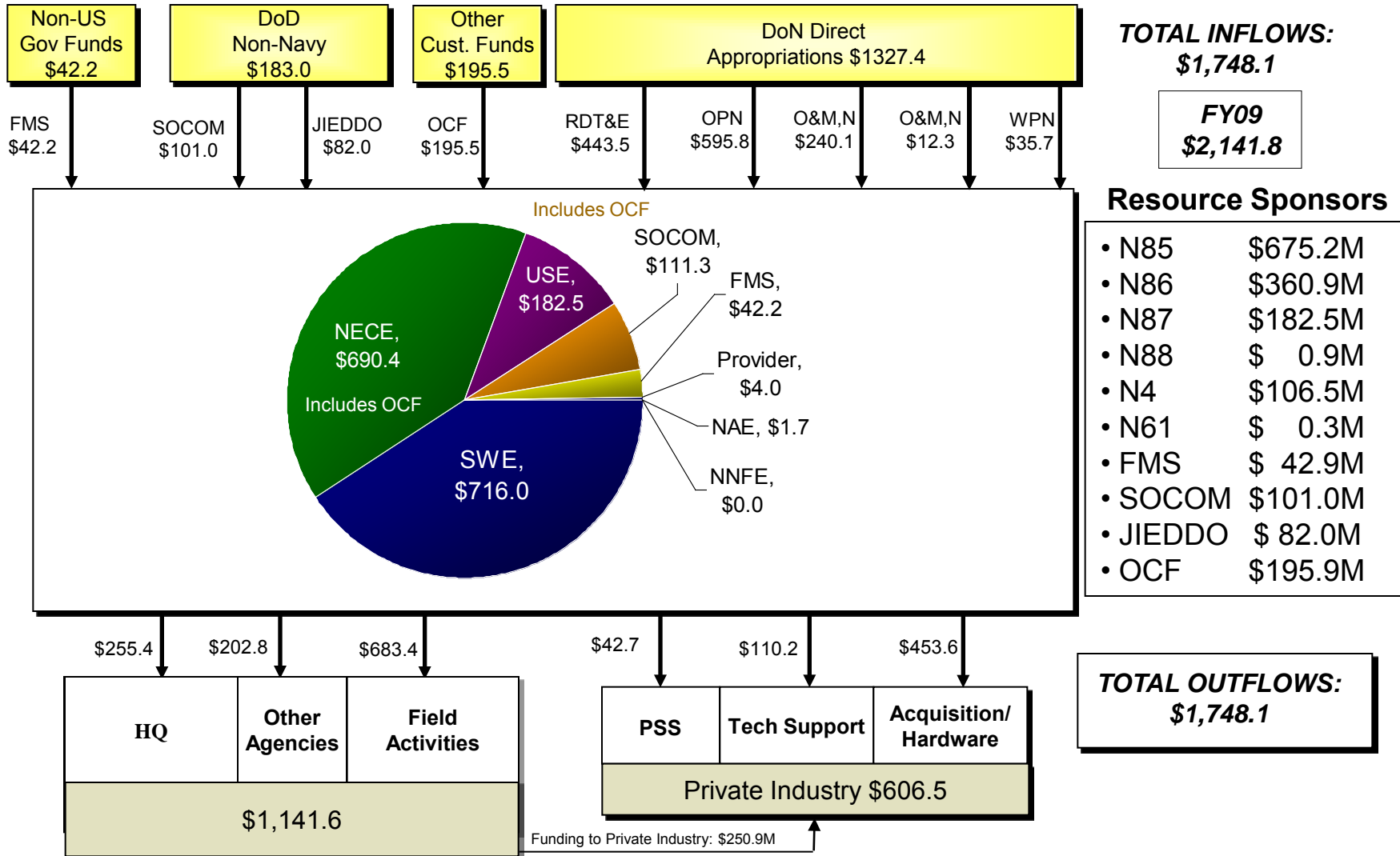


**PEO LMW Manages 226 Separate Programs!**  
2-ACAT I; 8-ACAT II; 14-ACAT III; 69-ACAT IV  
and 133 Non-ACAT Programs of Record



# Funds Flow by Appropriation

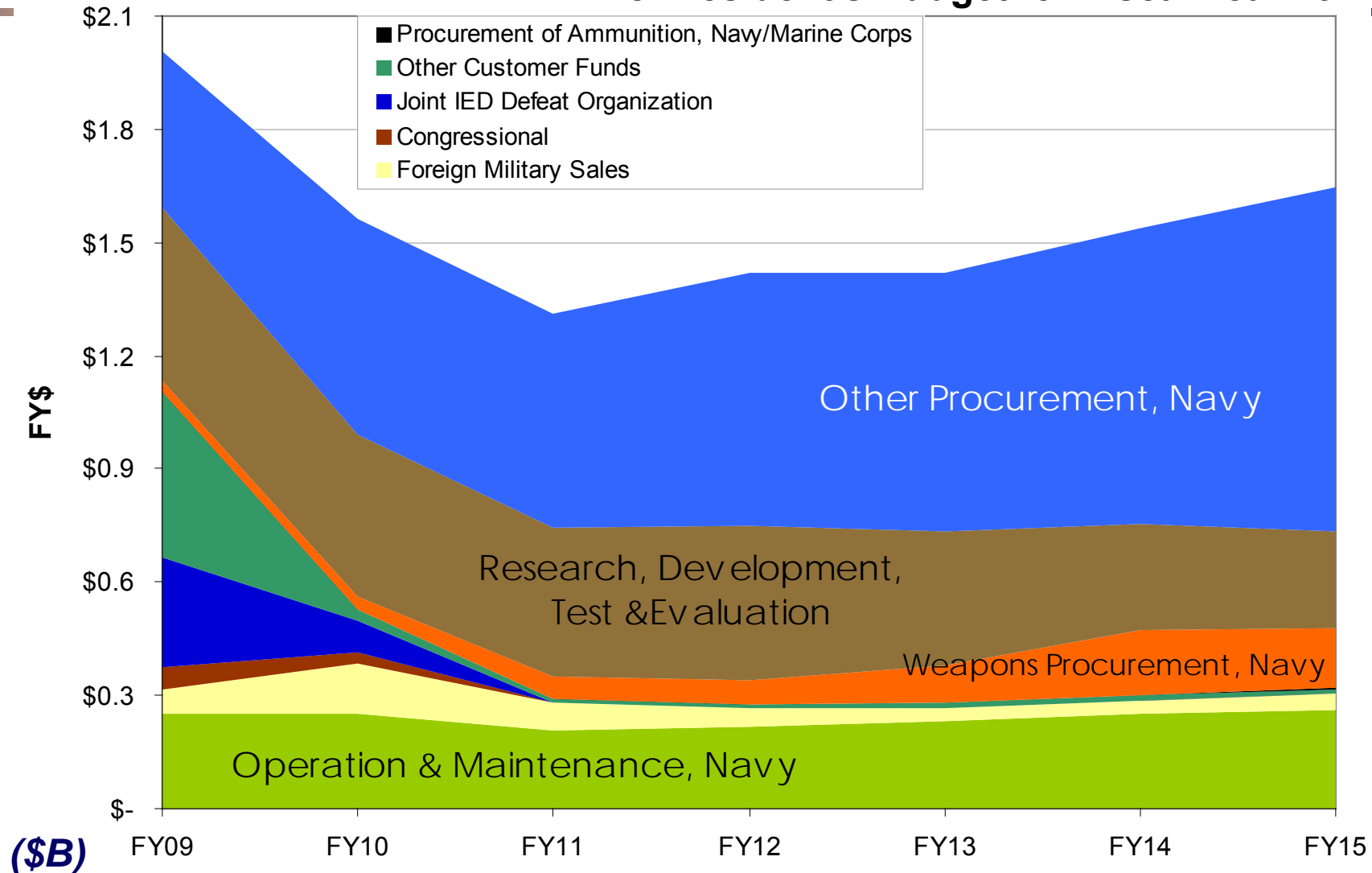
(FY10 \$M)





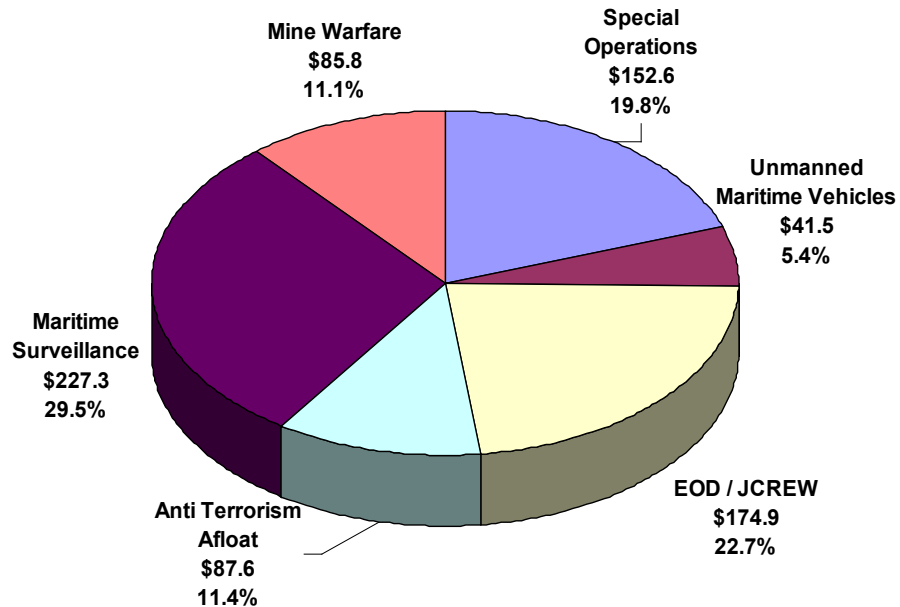
# Total Obligation Authority

The President's Budget for Fiscal Year 2011





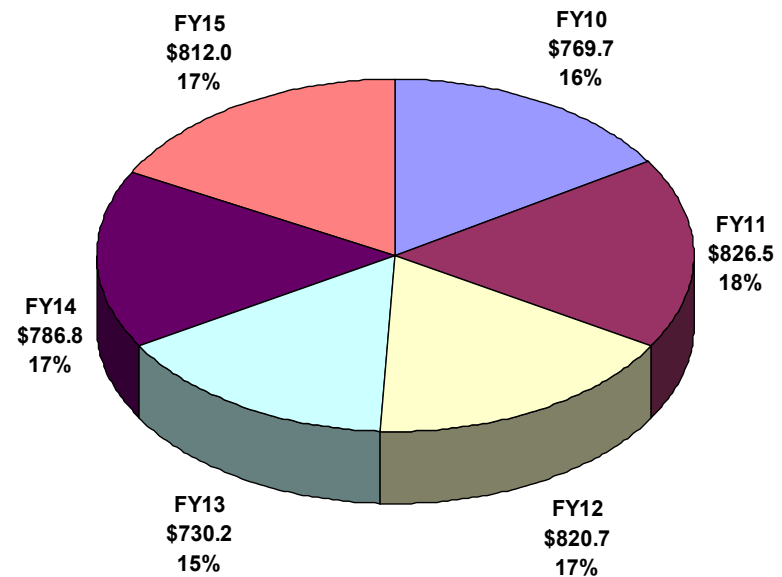
# PEO LMW Operational TOA



TOA By Warfare Area FY10

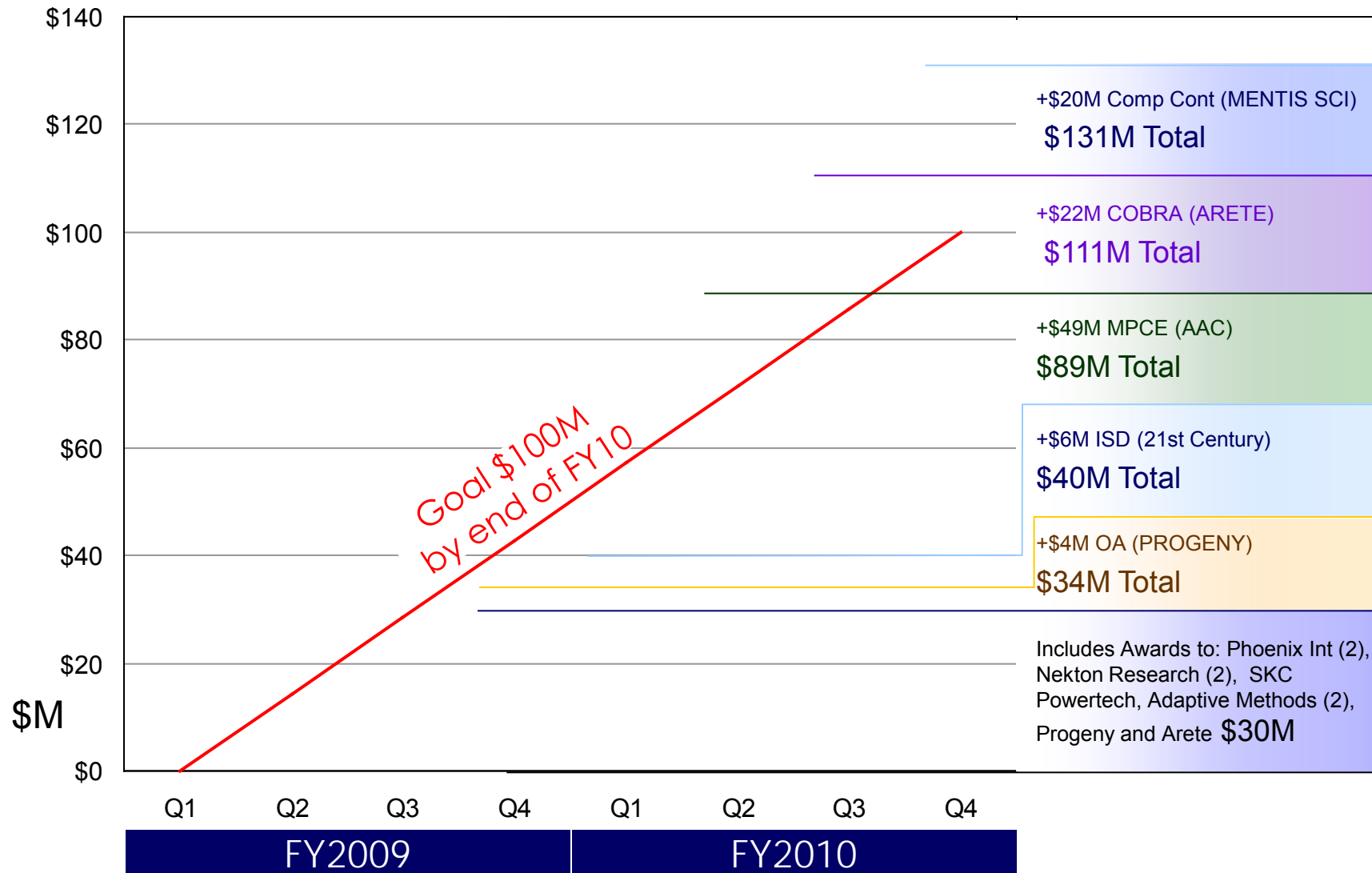
**~ 50% of LMW TOA is for Operational Fielding**

TOA Over the FYDP



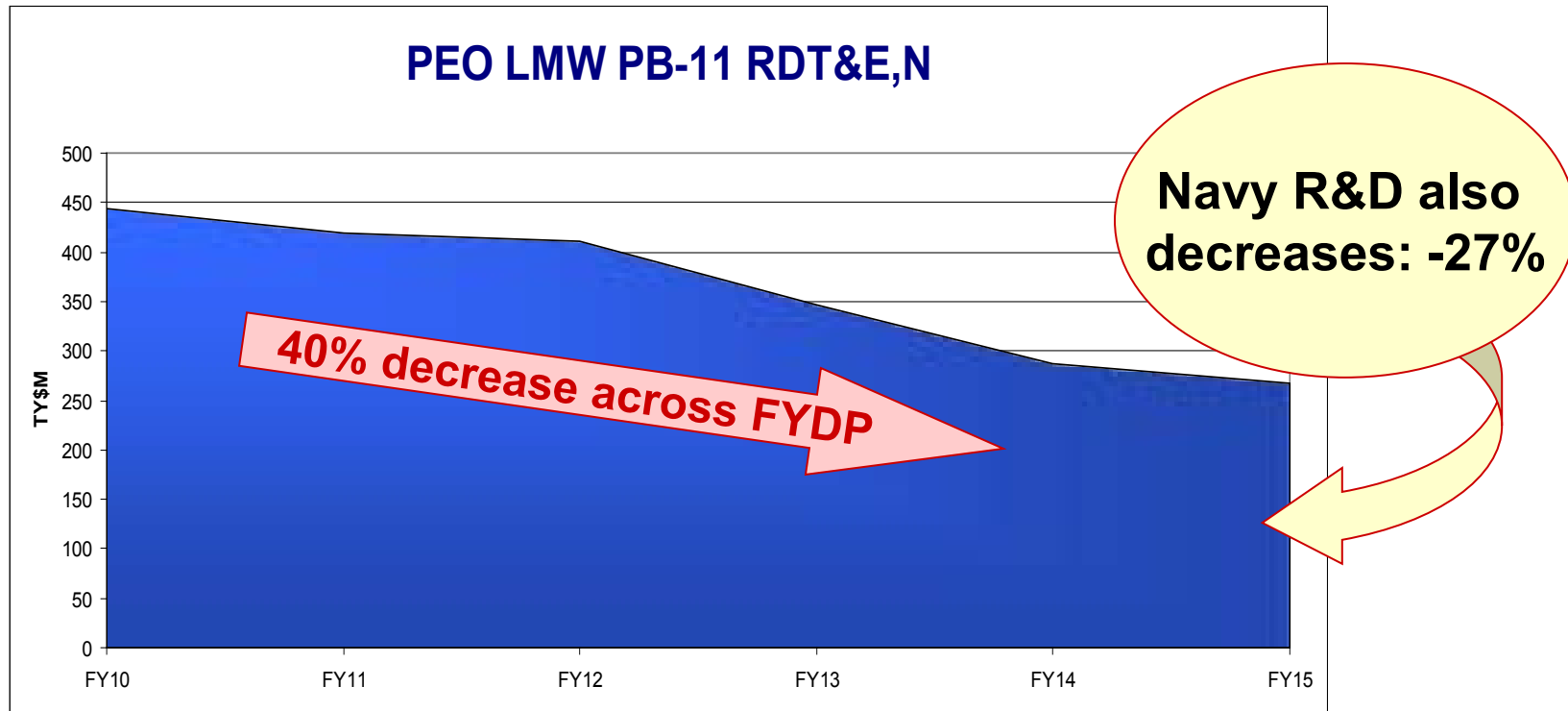


# PEO LMW SBIR's (Contract Ceiling)





# Realities in Challenging Fiscal Environment



- ◆ Fiscal Constraints Are Real
- ◆ Budgets Will Reduce



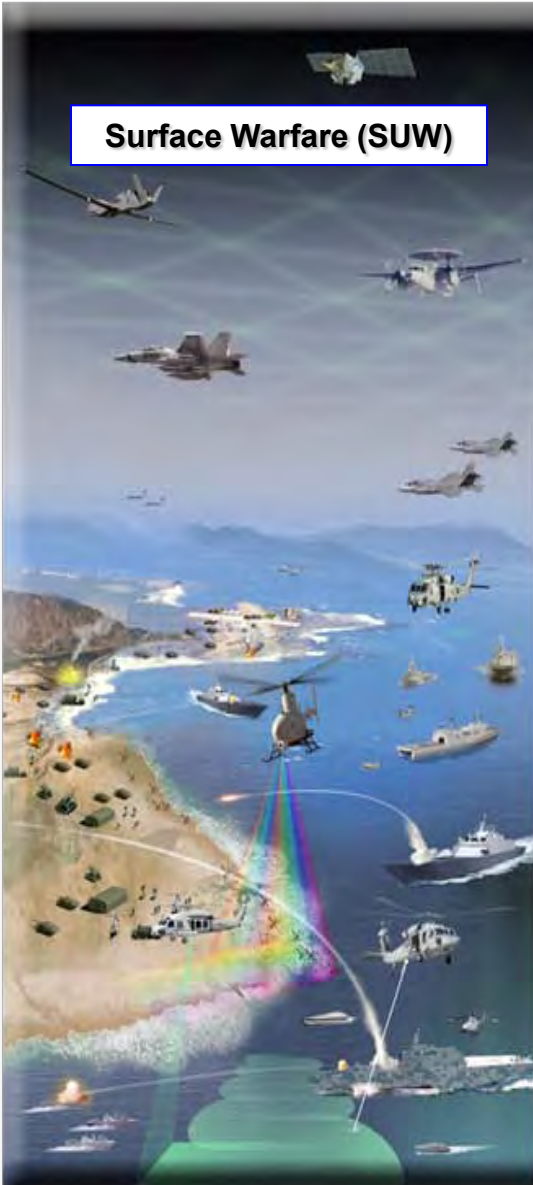
# ***Science and Technology Priorities***

- ◆ **Unmanned Systems**
- ◆ **Sensors, Communications and Common Control**
- ◆ **Safe and Efficient Energy**
- ◆ **Very Shallow Water Mine Countermeasures**
- ◆ **Automation Detection/Classification**



# ***LCS Mission Modules***

**Surface Warfare (SUW)**



**Mine Countermeasures (MCM)**



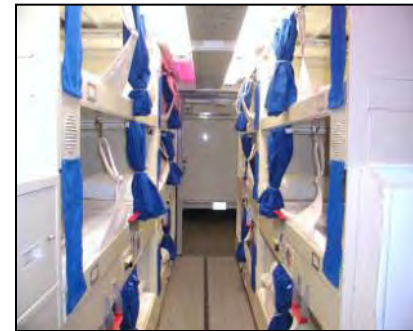
**Anti-Submarine Warfare ASW)**





# Maritime Security Module

- Two (2) 11-meter Rigid Hull Inflatable Boats (RIBs)
- Two (2) 20-ft TEU berthing containers
  - 6 Sailor berthing with stowage for VBSS AEL & personal gear
- One (1) 10-ft TEU head/shower container
  - 2 toilets, 2 sinks, 1 shower
- VBSS Allowance Equipage List (AEL)
  - Standard Navy VBSS AEL for the SUW MP
- Shipboard small arms allowance provides weapons
- SUW MP is manned to 19 Sailors (1 OIC)
  - Cross-trained for VBSS teams and RIB crews



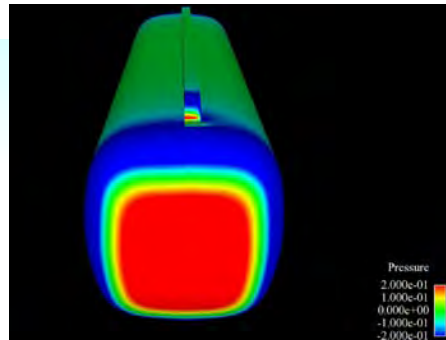


# Naval Special Warfare Programs

**Riverine Outfitting** - Procurement and delivery of Small Arms and Visual Augmentation Systems (VAS) Equipment



**Shallow Water Combat Submersible** - Free-flooding submersible used to transport NSW Operators and their equipment in support of underwater clandestine operations. The SWCS vehicle will have greater crew and cargo capacity, improved life support, extended range and improved electronics/sensors over the existing MK 8 Mod 1 SDV.



## Challenges

Shallow Water Combat Submersible

Submitted for Consideration:

SDV CDU RTT

Dustless Aerogel Coating

SOCOM (pending)

Multi-Diver heating and cooling

Puncture, Abrasion and Fire Retardant Protective Suit

ONR (Pending)

Multi-Fuel engine Development

## Opportunities

SWCS RFP let 24 March 10:  
Competitive Procurement Q4/2011

FY 11 DAC & FCT Topics

FY11 S&T Efforts

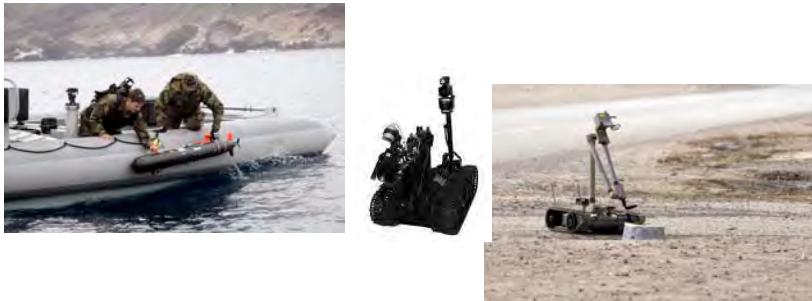
SBIRs/STTRs



# Explosive Ordnance Disposal (EOD) & Counter-RCIED Electronic Warfare (CREW)

**JSEOD Programs** - Provides RDT&E, procurement, life cycle support, and continuous improvement of specialized systems, equipment, and procedures required to support the EOD mission.

**Underwater EOD** - Provides systems /equipment in support of EOD Maritime-Homeland Defense (M-HLD) mission, Small Unmanned Undersea Vehicles (UUVs) for EOD Mine Countermeasures (MCM) and the M-HLD missions and EOD Life Support/Salvage systems.



**JCREW Programs** - Counter Radio-Controlled IED Electronic Warfare to disrupt enemy command and control RF communications associated with IEDs



## Challenges

### EOD

Open architecture environment  
Common interfaces/controllers for unmanned systems  
CREW/"comms" compatibility  
Rapid development/fielding for OEF and OIF  
Unmanned system autonomy  
Reduction of hazards to EOD Technicians

### CREW

Solution sets to counter rapidly evolving RC-IED threats  
Technology integration  
Vehicle/platform integration  
Interoperability/compatibility  
Weight reduction  
Power consumption/efficiency

## Opportunities

### EOD

SBIR/STTR projects  
Advanced EOD Robotic System Competitive Development contracts  
AEORS - planned for 3Q FY 11

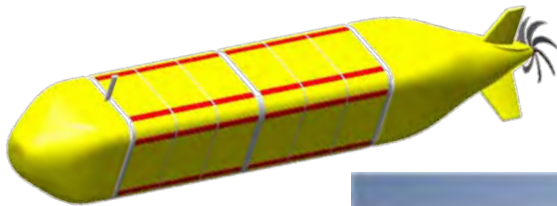
### CREW

CREW S&T (ONR), SBIR projects  
Technology maturation  
Expanded innovator vendor base  
JCREW TI/TR via open architecture/open business  
JCREW 3.3 TI/TR- Industry Day Oct or Nov 10  
Discrete installation/appearance



# Unmanned Maritime Vehicle Systems

**UMV Systems (PMS406)** recently established following re-designation of Remote Minehunting System (RMS) as ACAT-1D Program. PMS406 is responsible for acquisition, management and execution of UMV program portfolio (non-ACAT) unmanned undersea and surface systems. Currently Includes Surface Mine Countermeasures UUV, Large Diameter UUV and all Unmanned Surface Vehicles



## Challenges

### High Capacity Energy Sources

Navigation, Guidance, Control  
Autonomy (Obstacle/Collision Avoidance and Cooperative Behavior)  
Robust Communications  
Sensor and Sensor Processing (Computer Aided Detection/Classification)  
Common Control / Architectures  
Modular Open Systems  
Vehicle and Payload Interfaces  
Reliable Launch and Recovery from Surface Vessels and Submarines

## Opportunities

MCM USV: Competitive Procurement Q1/2011  
AN/AQS-20: Competitive Procurement Q3/2011  
ONR Innovative Naval Prototype FY11  
SBIRs/STTRs



*THEY **FIGHT** for US*



*WE **WORK** for THEM*



# Questions?



# ***Back-up***



# UUV Challenges

## Today



### UUV

- Basic autonomy
- Ocean sensing/change detect
- Single mission, slow speed

### Platform

- Auxiliaries
- Recover, reuse

### Operations & Environment

- Irregular Warfare
- Permissive

**Basic OPS in Benign Environments**

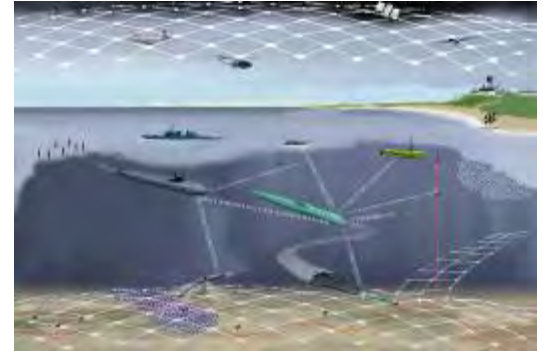
## Technical Challenges:

- Energy/Endurance
- Autonomy
- Contact Avoidance/Survivability
- C3/Data Exfil
- Launch & Recovery

## Operational Challenges:

- Operational Concepts
- Covert Data Exfil
- ROE: Pre thru post hostilities
- Sufficient operational experience to develop/refine TTPs

## Future End-State



### UUV

- Full autonomy
- Warfighting – i.e. ISR & ASW
- Multi-mission, weapons capable

### Platform

- Warships, ships and submarines
- Recover, reconfigure, reuse

### Operations & Environment

- Irregular Warfare+  
Sophisticated Adversary MCO
- Permissive, Contested, Denied

**Advanced OPS in Anti-Access Environments**



# Mission Modularity





# ***What is Naval Open Architecture?***

***Naval Open Architecture  
is the confluence of  
business and  
technical practices  
yielding modular,  
interoperable systems  
that adhere to open  
standards with  
published interfaces.***

## ***OA CORE PRINCIPLES***

***Modular design and design  
disclosure***

***Reusable application  
software***

***Interoperable joint  
warfighting applications and  
secure information  
exchange***

***Life cycle affordability***

***Encouraging competition  
and collaboration***



# OA in Smartphone Market

*"The sum total of open source developers across the globe is fairly staggering. Imagine having that collective whole working to create interesting, helpful applications, as well as bettering the total experience with the phone. That future is what awaits the smartphone based on open source technology."*

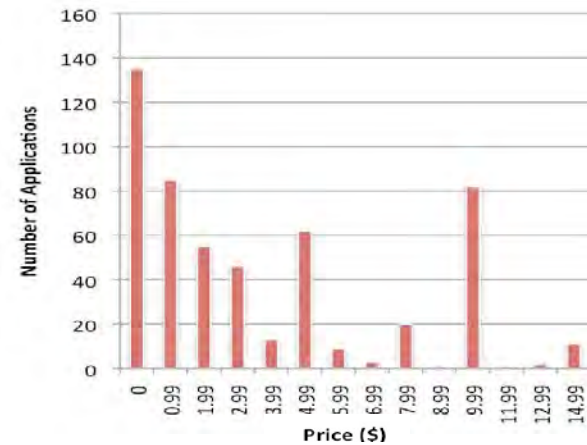
—ZDNet

*"... new startups answer the call for emerging markets ..."*

—Google News Service



If apps are cheap to develop, more can be developed and they can be sold at low costs



Cheaper and more plentiful apps, translates into more sales of apps



Cheaper and more plentiful apps puts smart phones in higher demand than other phones





# ***Small Business***



# PEO LMW Re: Small Business

- ◆ ***We need to embrace the small business partner and encourage them.***
- ◆ ***There is small business in every aspect of life, so we want to identify that.***
- ◆ ***I am developing a small businesses contracting strategy for PEO LMW.***
- ◆ ***The more we can educate and inform, the better the big guys are, and the better the small guys are.***

***~ Quotes from E. Anne Sandel  
Taken from Defense Daily news article  
15 October 2008***

www.defensedaily.com

## Defense Daily

WEDNESDAY, OCTOBER 15, 2008

### PEO, LMW Reaching Out To Small Business, Wants To Rapidly Field Capabilities

By Geoff Fein

The new program executive officer for littoral and mine warfare (PEO LMW) is looking to bring small businesses into the fold to take advantage of their product lines, in particular for unmanned systems. Ann Sandel, who formerly served as deputy assistant secretary of the Navy for Integrated Warfare Systems (DASN IWS), is now leading the effort to not only draw in smaller companies that don't require large procurements, but seeking ways to rapidly field capabilities to warfighters.

"How do we best inform the commercial industry of where there is need, where there are gaps, and where we need to have them insert themselves and help us become better informed consumers as well as take advantage of what they have at the product line," Sandel told Defense Daily in a recent interview. "We need to embrace the small business partner and encourage them." She likened the effort to the Navy's open architecture (OA) plans to pull in small companies to compete for contracts. "It's going to be OA in the sense of software and modularity, which they have a very well thought through OA plan, process, instruction, as part of their command wide philosophy [that] I am benefiting from in PEO LMW." But it doesn't have to be just in software or modularity, Sandel added. "There is small business in every aspect of life, so we want to identify that."

Sandel pointed out that her effort is not to exclude the larger prime contractors. All the same, she noted that much of the work in PEO LMW is not going to be a return on investment for them. "We know that if we can put that message out in a consistent manner, across all seven program offices, focused, that we will be able to get a response that we haven't had the time to do yet," Sandel said.

In the OA philosophy, Sandel noted, there is an effort to enhance and improve the relationship with industry partners that don't necessarily get the Navy's attention because they are not the big guys. As DASN IWS, Sandel played a significant role in shaping the Navy's OA effort. The Navy, she added, was building a strategy by which it would be able to embrace small business in a way that those companies knew the service's needs. "In that business case it happened to be software and they were able to address that need through the title of OA or ARCI or whatever you want to call it." "I want to embrace that philosophy and call it something in partnership with OA...small businesses contracting strategy across PEO LMW," she added. The next logical step, Sandel said, would be to have a consensus opinion across the PEOs of the Navy's areas. "Some of them are similar to a program office to program office." It's possible the large prime contractors would still be interested, she added, and that would be even better. "The more we can educate and inform, the better the big guys are, and the better the small guys are."

The first area of focus, according to Sandel, is unmanned underwater vehicles (UUV).

"Typically, what we are seeing and observing is unmanned underwater vehicles and the mine warfare community and any ASW (anti-submarine warfare) work tends to be an area that you can continue to push the envelope and have greater ability to leverage technology," she said. "So where we are focusing right now is there. It's not because the others don't have needs, but it is the closest requirement that we feel we need to have addressed."

Sandel sees UUVs as being game changers, in part because the budget is such in the Navy and Department of Defense that the Navy cannot afford to put out a full sea frame or a Virginia-class submarine for a mission that is so specialized. So where the programs turn to is UUVs, she added. "You are going to have a lot of focus in the next 10 to 15 years because of threat issues, because of affordability, and the flux of the modularity ability of them to get a product out to do a mission for you in an affordable and



# ***SBIR Snapshot***

- ◆ 164 contracts under 58 topics FY2003 - FY2009
- ◆ 110 Phase I contracts (\$16.6M)
- ◆ 43 Phase II contracts through 2008 topics (\$33.2M)
- ◆ GOAL: \$225M in Phase III contract ceilings by end of this fiscal year

**We Will Exceed Our Goal!!!**



# ***Contact Information***

**Mr. Jack Griffin at 401-832-7283 or at**  
**[john.f.griffin@navy.mil](mailto:john.f.griffin@navy.mil)**

# ***US Special Operations Command***

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## **Science and Technology in Irregular Warfare**



**Mr. Bill Shepherd**  
**Science Advisor**  
**11 Aug 2010**

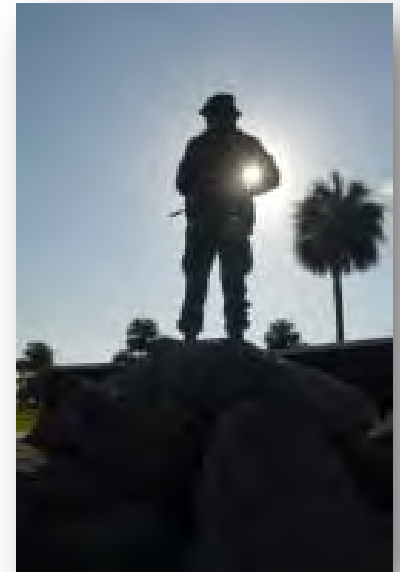




# Commander's Guidance for USSOCOM S&T

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- **Develop an R&D Effort Focused on Placing New Capabilities in the Hands of SOF**
- **Insert These Capabilities Rapidly Across the Force**





# S&T Strategy

---

- **Focus on “Evolutionary” Technology**
- **Leverage Others to Lead High-Risk  
“Revolutionary” Technology Developments**
- **Synergize Efforts Across SOF**
- **Build Partner Capability and Interoperability**
- **Cultivate “Intellectual Capital”**
- **“Exploit” New Technologies—**
  - **Select and Insert Quickly**



# Innovations in the Field



**Minigun + M2 .50 cal**

**SOF Operators devised ‘two-gun’ turrets “in theater” for greater operational flexibility. Multiple weapons allow better long range engagement and short range ambush response**



**Operator designed, field developed power supply box, which restored critical “Minigun” Capability to SOF fighting vehicles**



# “Unsanctioned R&D”



Bought –  
Mini GPS



Bought –  
Gun Light  
for Berretta

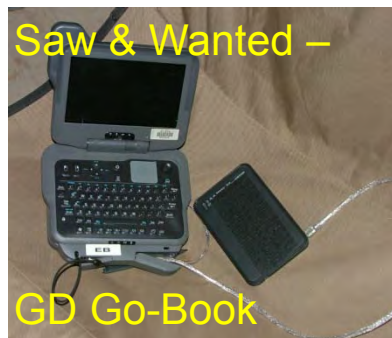


Bought –  
Emergency Sight for  
Sniper Rifle



Fabricated –

Twin M240 MG Mount



Saw & Wanted –  
GD Go-Book



Saw &  
Wanted –  
Multi-Cam  
Fatigues



Experimented –  
Mk 13 “Handgun”  
Modification



Fabricated –

Mk 44 Minigun Plus  
MK47 ALGL

Imagined–



Tactical “Street-View”



Saw & Wanted –  
Miniature  
Rangefinder



# Mobile Technology and Repair Complex (MTRC)



8 Complexes to AFG May 2010



**USSOCOM Pilot Project**

## ■ Mission

- Innovate, modify, adapt, and repair material “in situ” to enhance capabilities of SOF forces
  - Supports SOF activities, including Security Force Assistance and Civil Affairs, with rapid technology and capability insertions

## ■ Capabilities

- Engineering “In Place”—Engineers and Technicians collocated with MTRC
- Design and Fabrication in wood, metal, plastics, electronics; “modules” tailored for specific field needs
- Self-contained generator and Environmental Control Unit
- Reconfigurable, expandable. Broadband connectivity, workstations, Video Tele-Conferencing
- 8' ISU container--Expandable to 8'Wx24'L x8'H, Weight: 6,750 LBS
- Mobile—CH-47, 5T truck transportable



# MTRC Module Types

Typical Field Sites have 2 Modules — A “Complex”

*Closed –  
Ready for  
Transportation*



*Open – Workshop Deployed*



*Multipurpose Machine tools*

## ■ Module 1A: Base

- Hub/Office
  - Communications / Electronics / Computers-CAD-basic tools

## ■ Module 1B: Tool Room

- Fabrication/Project Workspace
  - Advanced tools, mill/lathe combo, welder/cutters, fabrication

## ■ Module 1C: Vehicles

- Large Projects/Vehicle Workspace
  - Large vehicle tools, lifts, weapon repair kits, pneumatic tools

## ■ Module 1D: Small Footprint “Team” Box

- An “All in One” box for small teams

## ■ Module 1E: Micro Power

- Solar panel and wind generator arrays with battery storage, inverter and controls



# Strategic Engagement

**MTRC can be conduits to introduce Appropriate and Sustainable Technology (AST) for “Strategic Engagement”**



## **Appropriate and Sustainable Technology (AST)**

*Technologies that make best use of locally available resources to meet local needs. Appropriate technologies are generally low-cost, manageable in scale, and can be operated, sustained, and maintained by a local workforce. AST can help build local community infrastructure and develop viable small business enterprises. The technology must suit the user and his needs, and must be configured to foster self-reliance, cooperation, and responsibility while improving quality of life.*



# Appropriate and Sustainable Technologies (AST)

## Power



Solar, Wind, Micro  
hydro Power

## Water and Sanitation



Pumping, purification, sewage

## Subsistence



Incubator



Feed Mill

## Light Industry



Hand-Operated  
Sewing Machine



Hand-Powered  
Bench Grinder



Mini-Flour  
Processing  
Machine



Peanut Butter  
Mini-Plant

## Construction



Diesel Rock  
Crusher

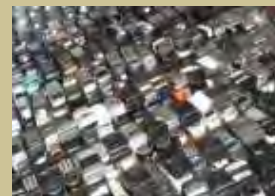


Rammed Earth Wall  
Forms

## Communications



Portable Cell Towers



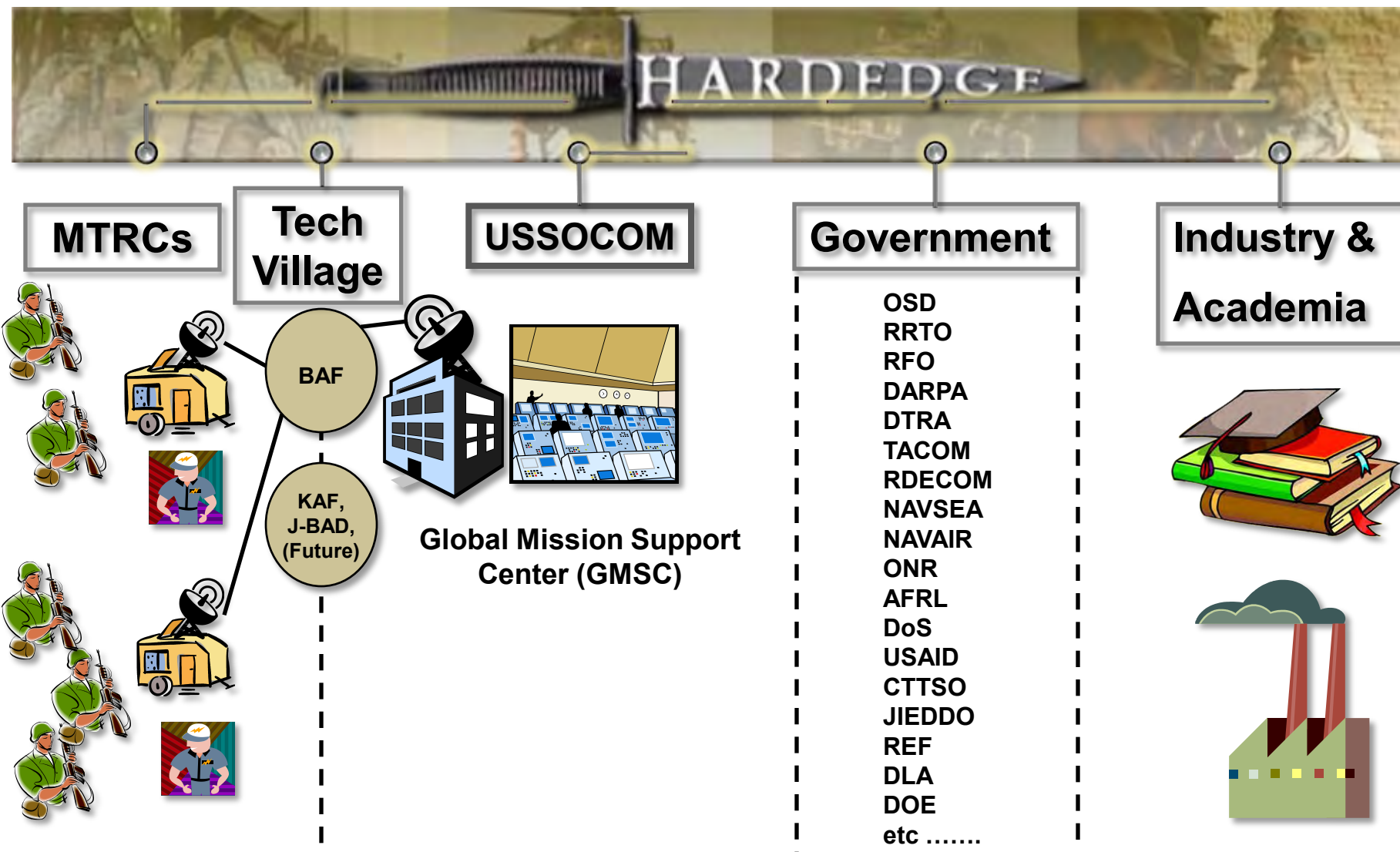
Used Cell  
Phones

- Transportation,  
Micro Finance, etc....



# Science & Technology Network

<http://hardedge.socom.smil.mil>





# Tech Village--Motivation

---

## A Joint Prototype Integration Facility (PIF)

- **Consolidated Hub for Engineering, Development, Complex Fabrication, Integration, Testing**
  - **A “Single Campus” for technical units and rapid prototyping shops**
  - **“Reachback” to CONUS Labs and Facilities**
  - **Leverage synergies and complementary capabilities—**
    - Paladin, Wolfhound, REF, FAST, SPG, Mobile Parts Hospital, MTC, CEXC, etc.
- **Showcase for appropriate, sustainable technologies for Village Stability Initiatives and other rural improvement projects**

Synergy on the Battlefield



# Tech Village Capabilities

---

- **Labs**
  - Computer lab, Electronics, Chem, Clean Room
- **Shops and Fabrication**
  - Machine Shop, Rapid prototyping machines, plastic and metal
  - Vehicle Bays
  - Aircraft Shelter
- **Test Areas**
- **Large Briefing Areas**
- **Isolated “Innovation/Project Rooms”**
- **“Petting Zoo” – A “Hands-On” Tech Display supporting Briefings, Orientation, Training**



# Future Projects

- **'County Fair'**
  - A demonstration area and "fair" where US and AFG officials and locals get 'hands on' familiarity with AST initiatives and technologies
- **Vocational Training**
  - Local "Technology Training" and a future Vocational Education Center (VOTEC)
- **Afghanistan Village of the Future**
  - A model village showcasing technology impacts on local quality of life and self-sufficiency



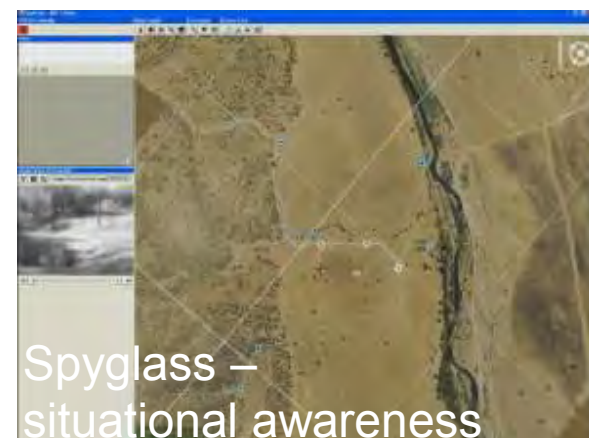


# Force Protection

## Base System



## Additional sensors --



Wave relay  
Wireless link



# USSOCOM

## Technology Areas Of Interest

### SOF Warrior

- ▶ Reduce the load of the operator
- ▶ Human performance, conditioning, and reconditioning
- ▶ Advanced visualization and training systems
- ▶ Advanced protection

### Intelligence, Surveillance, and Reconnaissance (ISR)

- ▶ Advanced sensors including Tagging, Tracking, and Locating devices
- ▶ Multi-spectral optics
- ▶ Advanced processing techniques
- ▶ Persistent surveillance
- ▶ Advanced unmanned systems

### Command, Control, Communications, and Computers (C4)

- ▶ High bandwidth technologies
- ▶ Secure mesh, self-forming mobile ad-hoc networks
- ▶ Multi-level security systems
- ▶ Advanced multi-function software defined radios
- ▶ Advanced data management

### Weapons and Electronic Attack (EA)

- ▶ Precision guided munitions
- ▶ Tunable weapons
- ▶ Increased EA capabilities and capacity; portable systems

### Medical

- ▶ Far-forward Tactical Combat Casualty Care
- ▶ Rapid assays/diagnostics

### Mobility

- ▶ Advanced situational awareness in all environments
- ▶ Increased operational capacity and capabilities
- ▶ Low Observable and Counter Low Observable technologies
- ▶ Advanced lightweight armor and materials
- ▶ Advanced mobility platforms to access sensitive or denied areas
- ▶ Multi-domain mobility platforms

### Power and Energy

- ▶ Power system technologies; signature reduction
- ▶ Advanced surface craft power systems
- ▶ Advanced energy storage for underwater vehicles

### Irregular Warfare (IW)

- ▶ Tailored virtual training for language and regional expertise capability
- ▶ Psychological Operations; advanced multi-media techniques

### Cyberspace Operations (Attack, Defend, Exploit)

- ▶ Information assurance
- ▶ Exploitation and counter-threat



# Questions?

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# Expeditionary Maneuver Warfare & Combating Terrorism S&T Department

Code 30

REVELOPING FUTURE NAVAL COMBAT CAPABILITIES



OFFICE OF NAVAL RESEARCH

## Office of Naval Research Special Missions Science & Technology Areas of Interest



**Mr. Jim McMains**  
**Director, ONR 303**  
**Combating Terrorism and Naval**  
**Enterprise Integration**

**12 August 2010**



# Our Mission

The *Office of Naval Research* invests in innovative science and technology (S&T) that ensures our warfighters have the *technological edge*.



*ONR Mission* — “to plan, foster, and encourage scientific research in recognition of its paramount importance to future Naval power and national security.” — Public Law 588 of 1946



# ONR S&T Departments

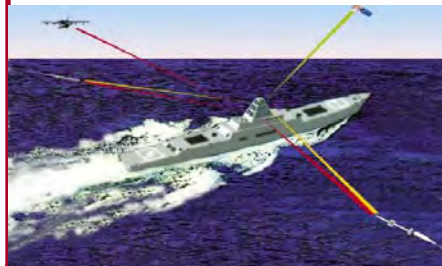
## Code 30



**Expeditionary Maneuver  
Warfare & Combating Terrorism**

## Code 31

### C4ISR



## Code 32

### Ocean Battlespace Sensing



### Sea Warfare and Weapons



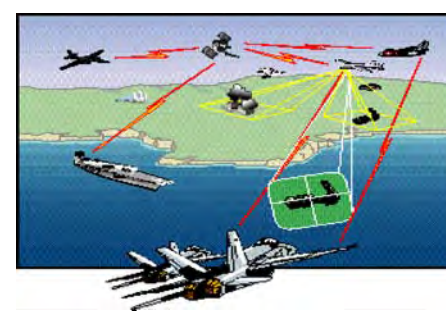
## Code 33

### Warfighter Performance



## Code 34

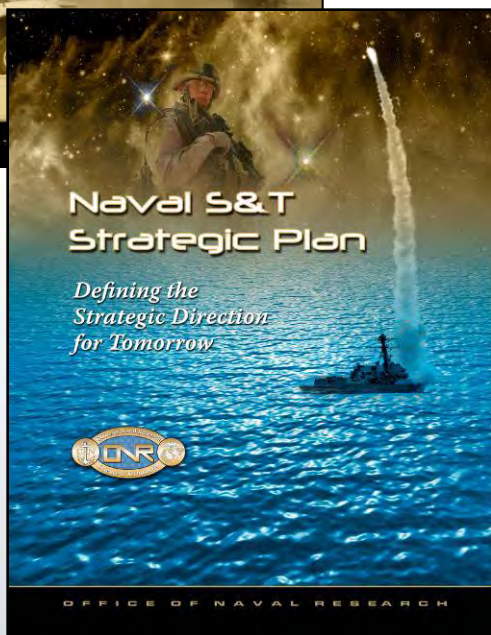
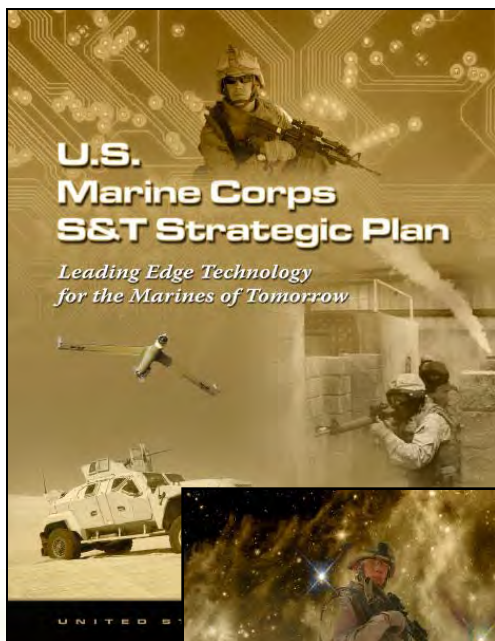
### Air Warfare and Weapons



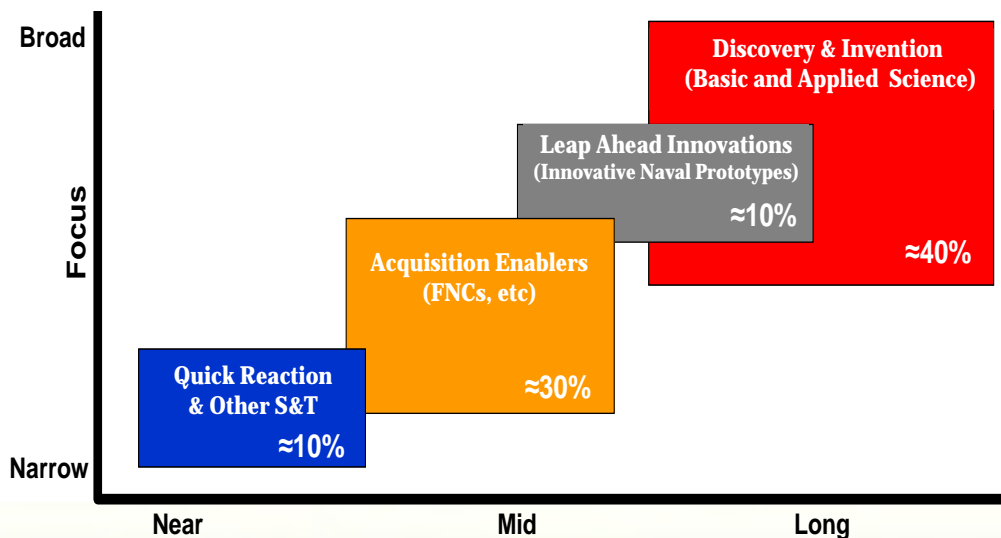
## Code 35



# Naval S&T Strategic Plan



## Resource Allocation

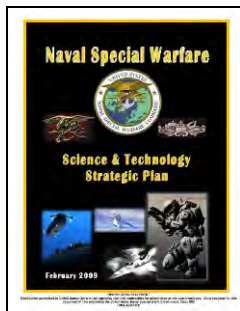
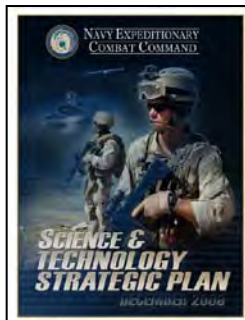
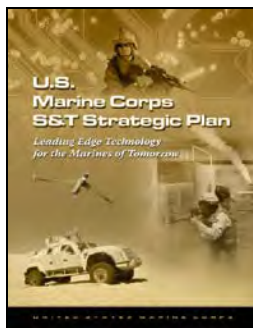


## Focus Areas

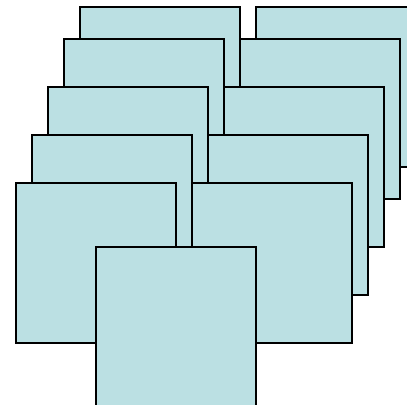
- Power and Energy
- Operational Environments
- Maritime Domain Awareness
- Asymmetric & Irregular Warfare
- Information Superiority and Communication
- Power Projection
- Assure Access and Hold at Risk
- Distributed Operations
- Naval Warfighter Performance
- Survivability and Self-Defense
- Platform Mobility
- Fleet/Force Sustainment
- Total Ownership Cost



# Science & Technology Requirements Process “Top Down”



13 Focus Areas



ONR 30 Leads 2 Focus Areas



**Asymmetric  
Irregular  
Warfare (AIW)**



**Distributed  
Operations (DO)**



*Focus on the warrior as a system,  
rather than the platform!*

**Align:**

- What we do
- What we need to do it
- How do we measure our effectiveness?

**Align with our customers:**

- USMC, NECE, SPECWAR
- Combat Developers, Material Developers, Operating Forces

**Deputy  
Programming, Planning &  
Operations**  
Ms. L. Worcester  
Capt Thom Bellamy

**Department Head**  
Mr. G. W. Solhan

**Deputy  
Department Head**  
COL T. M. Williams

**ExFOB**  
LT V. Cruz

**Hybrid Complex Warfare Sciences  
Division (301)**

**Director**  
Dr. R. Pohanka  
**Deputy**  
Maj B. Short

**Applications Division (302)**

**Director**  
Mr. A. G. Johnson

**Combating Terrorism &  
Integration Division (303)**

**Director**  
Mr. J. McMains

**Non-Linear Physics**  
Dr. M. Shlesinger

**Basic Research  
Counter IED**  
Dr. D. Prono  
CAPT M. Stoffel

**FITE JCTD**  
Mr. C. Lethin

**IDD**  
Ms L. Albuquerque

**Maritime  
Irregular  
Warfare**

**Operational  
Adaptation**

***Integrate inter departmental & interdisciplinary within ONR and with external activities***

**Human  
Performance  
Training &  
Education**

**C4**

**ISR**

**Fires**

**Logistics**

**Maneuver**

**Force  
Protection**

**Human,  
Social,  
Cultural,  
Behavioral  
Sciences**

Dr. R. Stripling

Mr. J. Moniz

Mr. M. Kruger  
Ms. M. Rubeiz  
Maj F. Filler

Mr. D. Simons  
Mr. M. Tepaske

Mr. C. Anderson

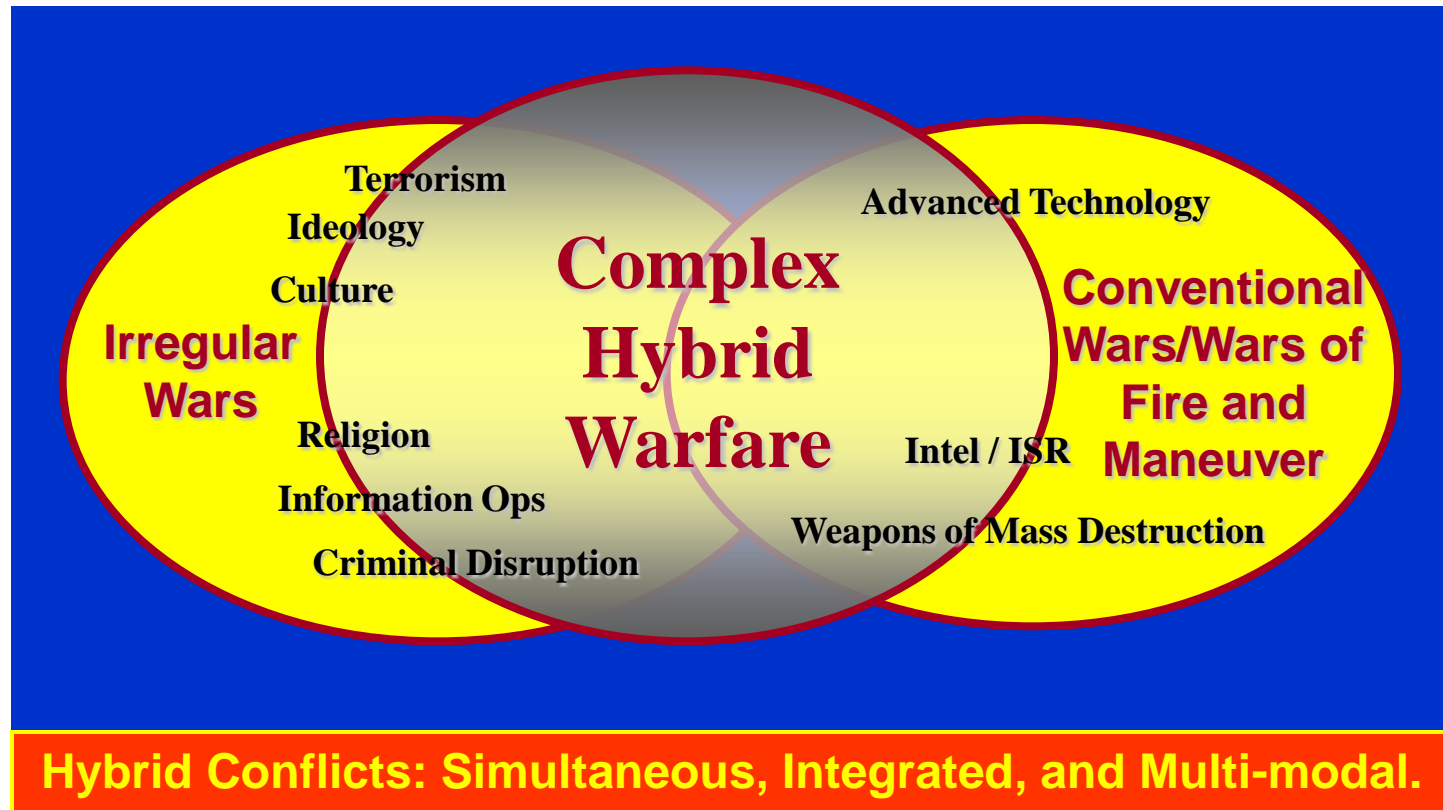
Mr. J. Bradel  
Mr. G. Doerr  
Mr. K. Hammack

Mr. L. Mastroianni

Dr. I. Estabrooke

# Changing Character of Conflict:

**Irregular and Traditional warfare are not mutually exclusive...**

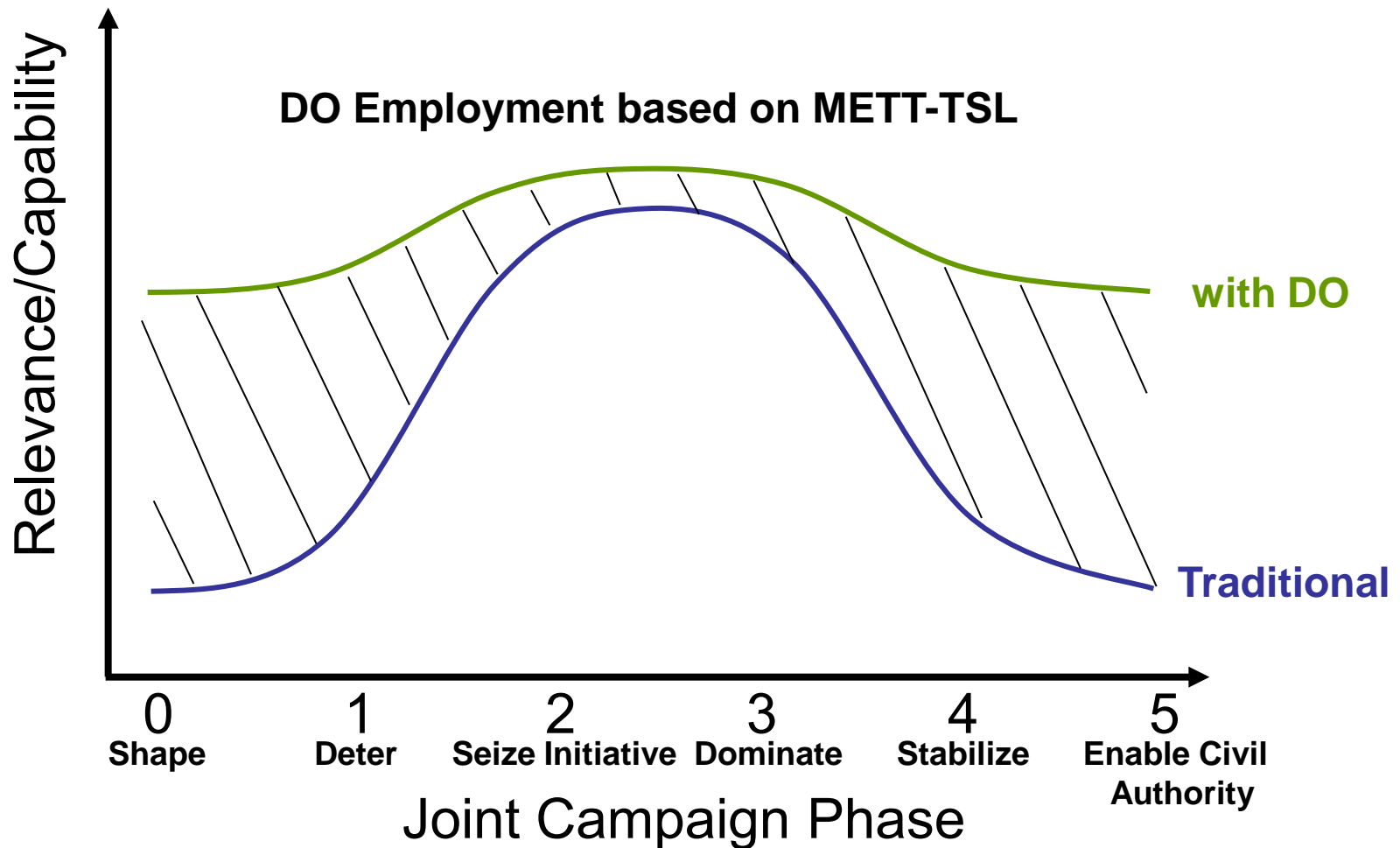


# Traditional Warfare vs. Irregular Warfare

**IW Definition:** A violent struggle among state and non-state actors for legitimacy and influence over the relevant populations. IW favors indirect and asymmetric approaches, though it may employ the full range of military and other capabilities, in order to erode an adversary's power, influence, and will. – IW JOC

	<b><i>Traditional Warfare</i></b>	<b><i>Irregular Warfare</i></b>
1	The center of gravity is often the adversary's <b><i>military forces and political leadership</i></b>	The center of gravity is usually the <b><i>indigenous population</i></b>
2	Influencing the <b><i>physical terrain</i></b> is key.	Influencing the <b><i>social &amp; cultural terrain</i></b> is key
3	Conducted by <b><i>regular forces</i></b> of <b><i>nation states</i></b> that are <b><i>separate and distinct</i></b> from the civilian population	Often conducted by <b><i>irregular forces</i></b> of <b><i>state or non-state networks</i></b> that are <b><i>embedded</i></b> (not distinct) from the civilian population
4	<b><i>Focused kinetic effects -- Physical</i></b>	<b><i>Distributed non-kinetic effects -- Psychological</i></b>
5	<b><i>Symmetrical</i></b> – less opportunity to adapt forces and material	<b><i>Asymmetrical</i></b> – more opportunity to adapt forces and material
6	Focus on the <b><i>kinetic destruction</i></b> of the adversaries warfighting material from <b><i>stand-off</i></b> distances	Focus on the <b><i>non-kinetic influence</i></b> of local and regional populations requiring <b><i>face-to-face</i></b> interaction.
7	<b><i>Tactical competence</i></b> is critical	<b><i>Cultural and tactical competence</i></b> is critical
8	Organizational cohesion maintained through training, leadership, and sense of <b><i>nationalism</i></b>	Organizational cohesion maintained through <b><i>ideology</i></b>
9	Threat forces and relationships <b><i>easily templated</i></b>	Threat forces and relationships <b><i>difficult to template</i></b>
10	<b><i>d i M e (Diplomatic, Information, Military, &amp; Economic with emphasis on the Military)</i></b>	<b><i>D I m E – High interagency (Emphasis on Diplomatic, Information, and Economic)</i></b>
11	<b><i>Metrics of success are easily defined</i></b>	<b><i>Metrics of success are not easily defined</i></b>
12	<b><i>Technology provides direct and proven advantage</i></b>	<b><i>Technology still proving its ability to dominate Irregular opponents</i></b>

# DO Relevance of General Purpose Forces in Joint Operations

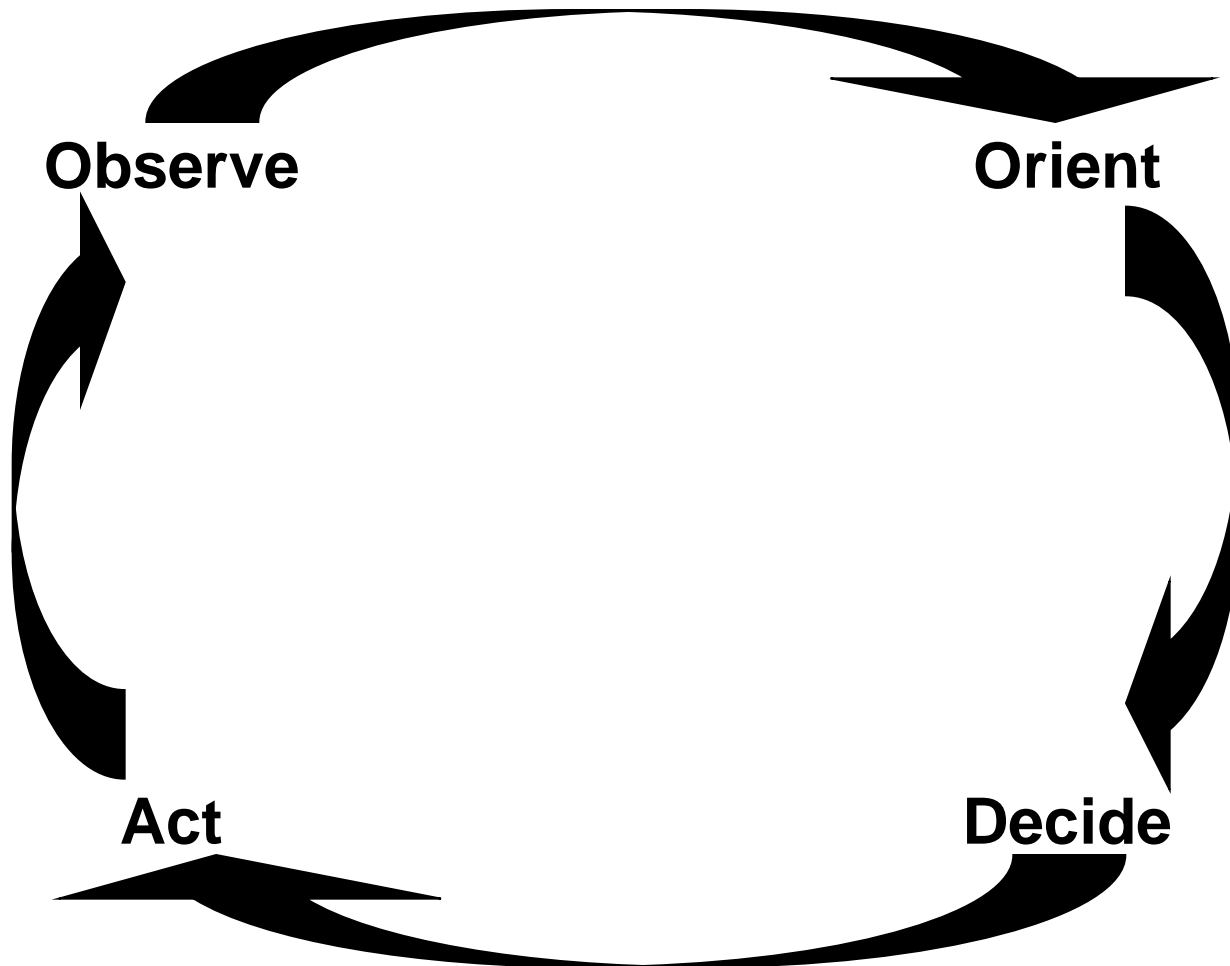


“Armies do not win wars by means of a few bodies of super-soldiers but by the quality of their standard units”

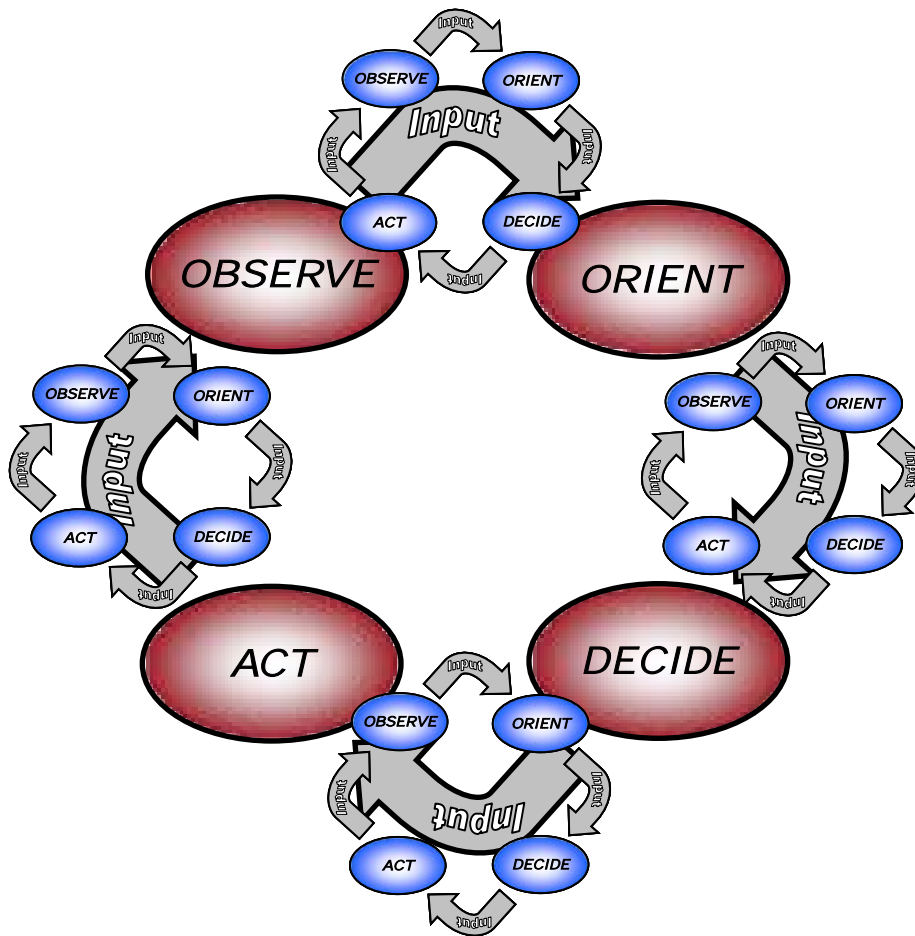
Field Marshall Sir William Slim

# Decision Cycle for High Tempo and Adaptability

Allowing warfighters to adapt faster and more effectively  
by enabling a more rapid decision/action tempo.



# Forewarning and the OODA Loop



## **Decision Cycle (or OODA Loop)** **Dominance**

**Temporal + Qualitative + Capacity advantage allows multiple correct and relevant decision to be made before the enemy can complete a single cycle.**

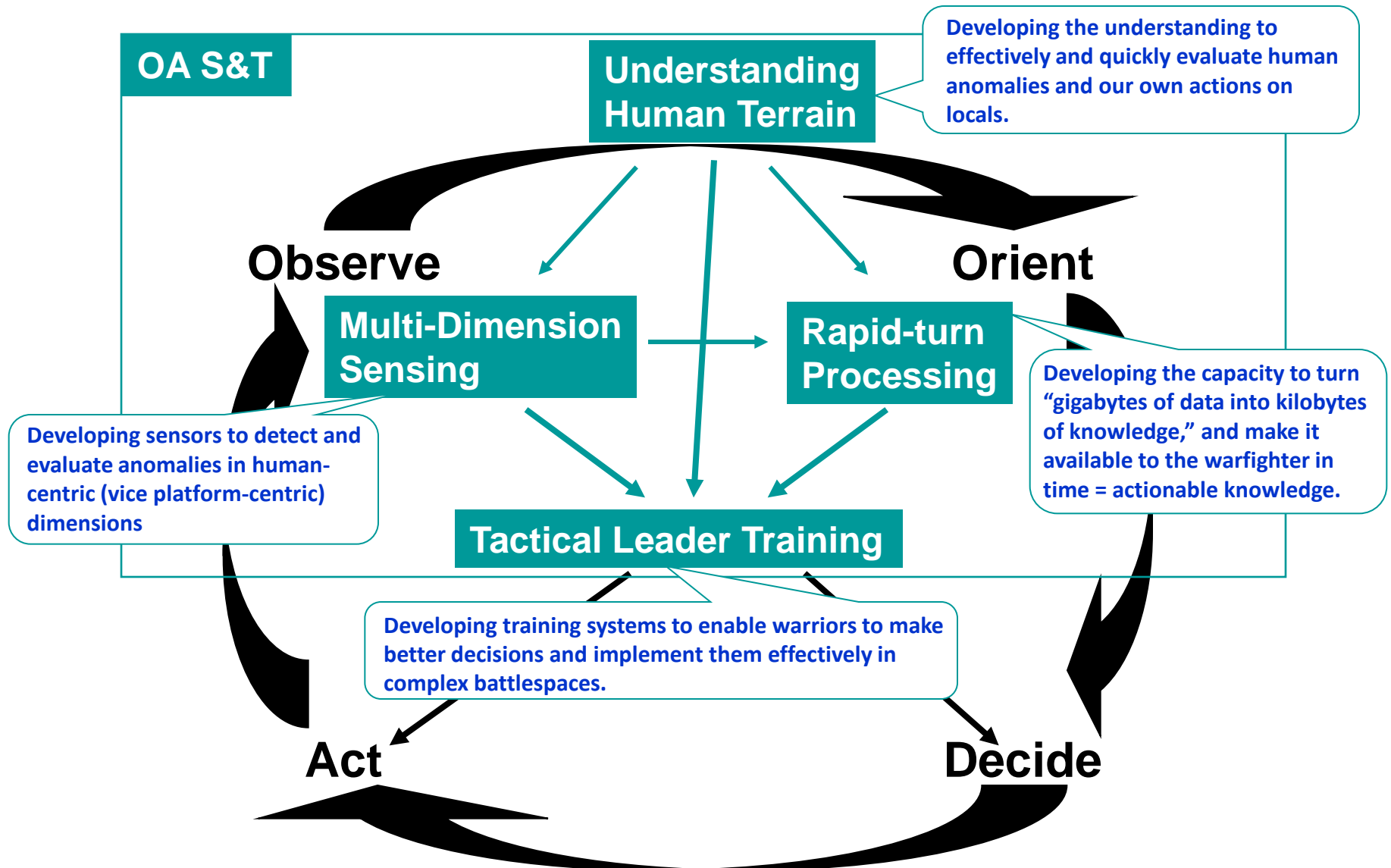
**The threat decision cycle is disrupted and overwhelmed.**

**Ultimately the threat decision cycle is manipulated and shaped.**

***“Dominate the enemy’s OODA Loop”***

# Decision Cycle for High Tempo and Adaptability

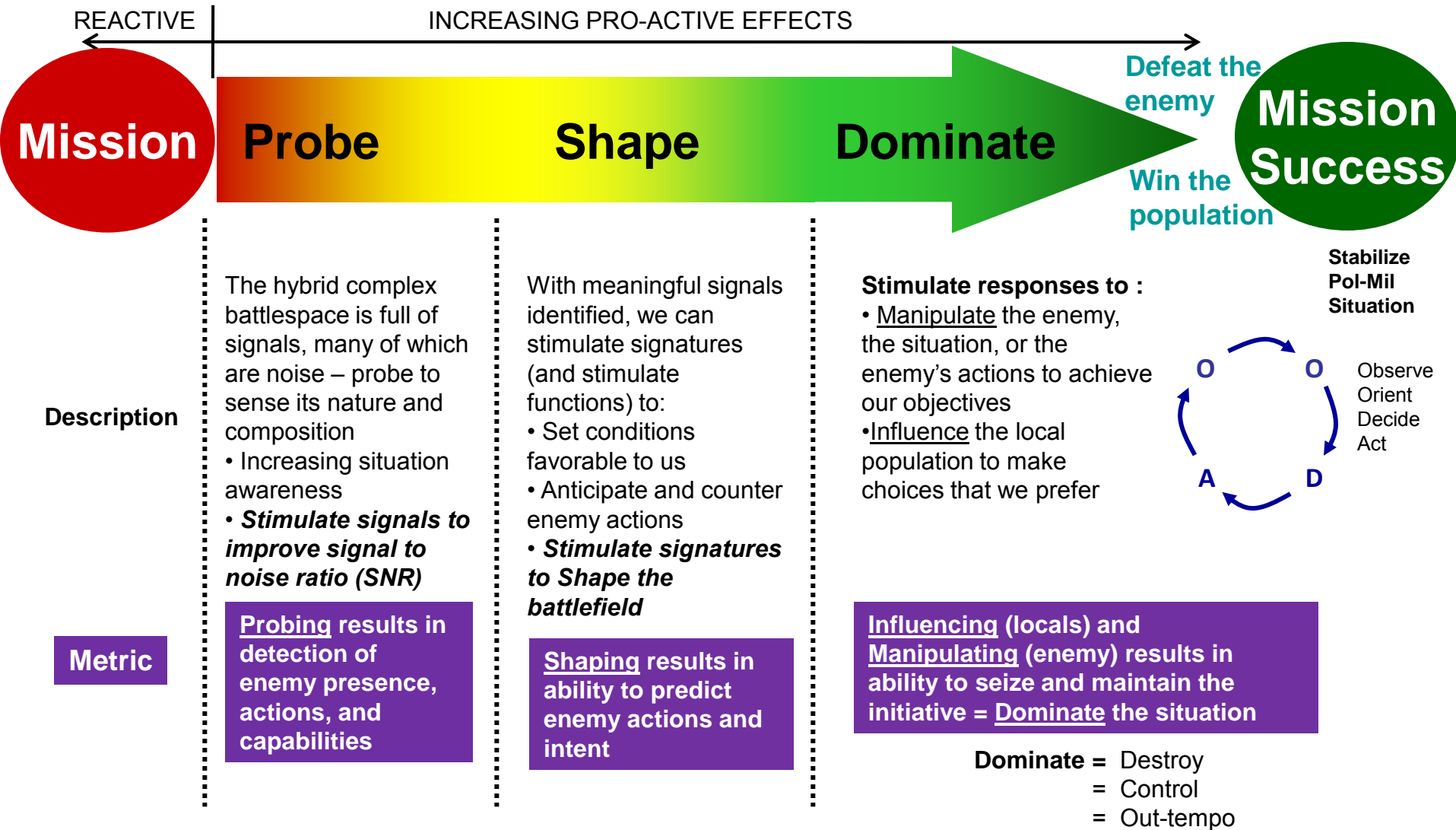
Allowing warfighters to adapt faster and more effectively  
by enabling a more rapid decision/action tempo.



# Operational Adaptation

- Environment
    - Volatile
    - Uncertain
    - Complex
    - Ambiguous
  - Pro-active vs. reactive
  - Active vs. passive
  - Offensive vs. defensive
  - Forecasting vs. Templating
  - Tempo vs. BDA (destruction)
  - Knowledge vs. data
  - Intel drives operations
- Forewarning provides the opportunity to increase the effectiveness of decisions made and to maximize the time available to make these decisions.
  - Existing US Military technologies and processes are extremely effective when faced with a conventional opponent who cooperates by engaging in traditional forms of warfare and is easy to template.
  - Today's evolving irregular threats are exceptionally difficult to template and will require a significant shift in technology and process foci in order to regain our accustomed advantage in the decision cycle competition.

# OA Concept/Objectives



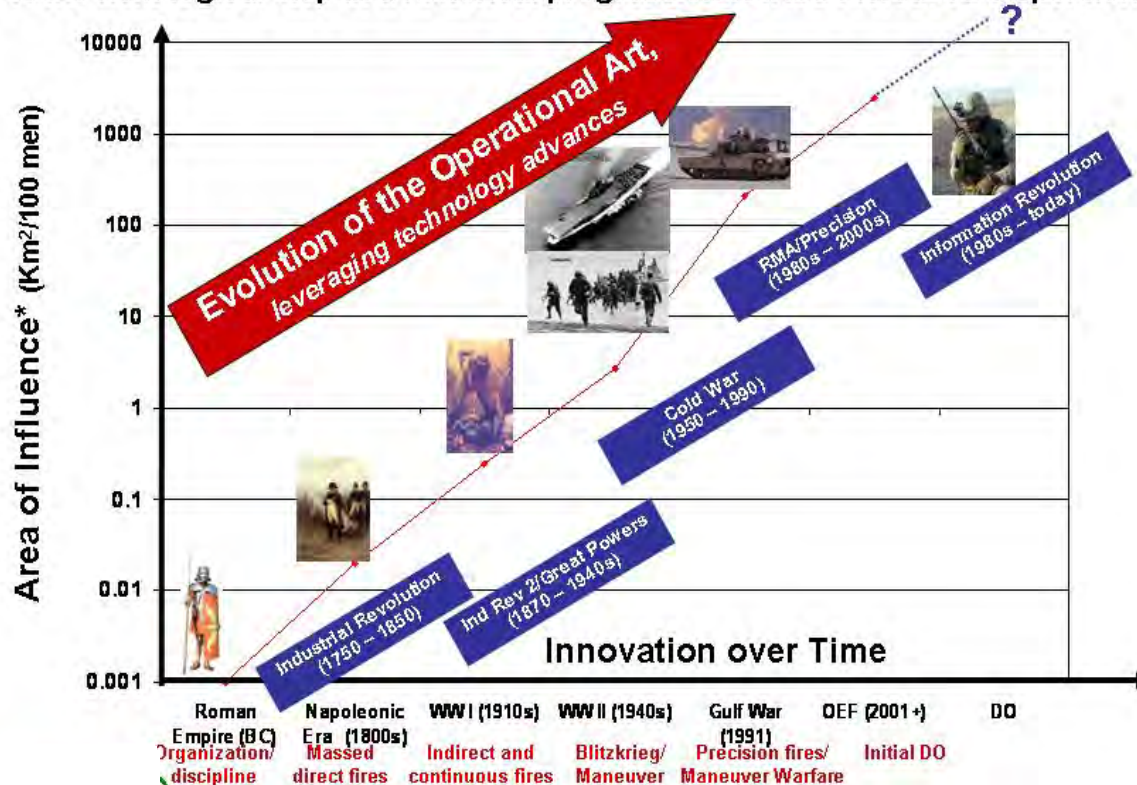


# HISTORICAL CONTEXT

## Operational Adaptation Is Not A New Concept

### Distribution Evolution

DO is the next logical step in a historical progression toward increased dispersion.



## Overcoming The Challenges Of Today's Modern, Hybrid Battlespace And Staying Two Steps Ahead



# NR

## INTERDICTION ENEMY ACTIVITIES FURTHER UP THE "KILL CHAIN"

**OA TECHNOLOGIES WILL ENABLE COMMANDERS TO  
EXTEND THEIR CAPABILITIES UP THE KILL CHAIN**



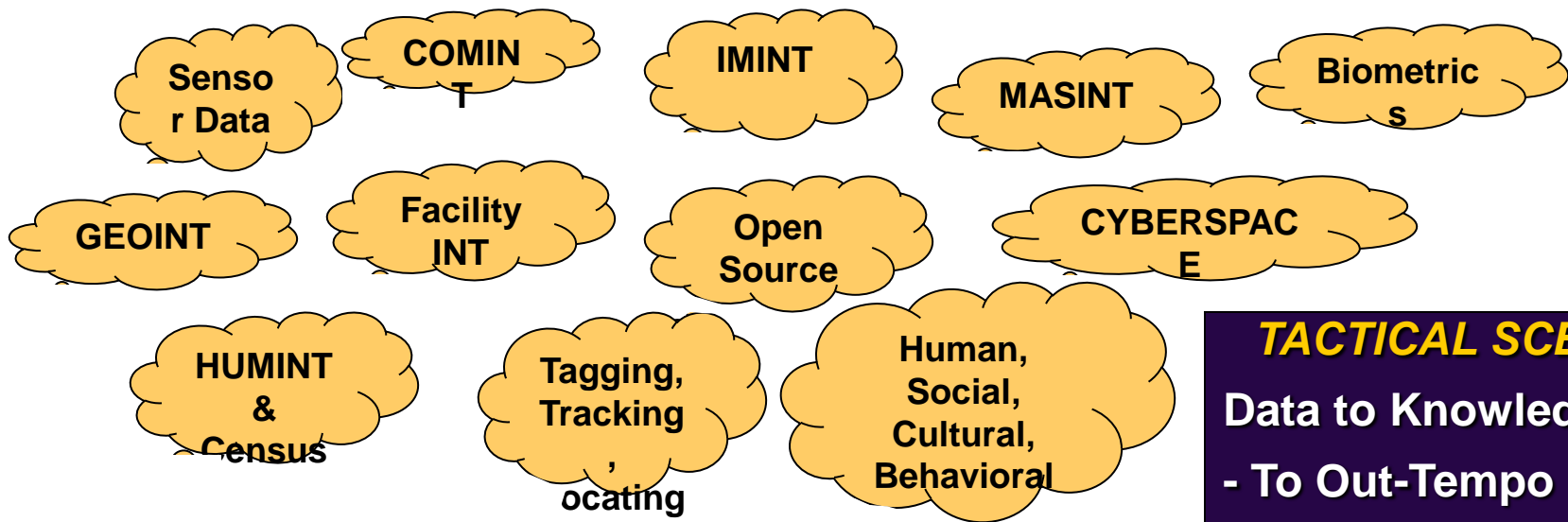
**CURRENT CAPABILITIES  
TEND TO BE REACTIVE**



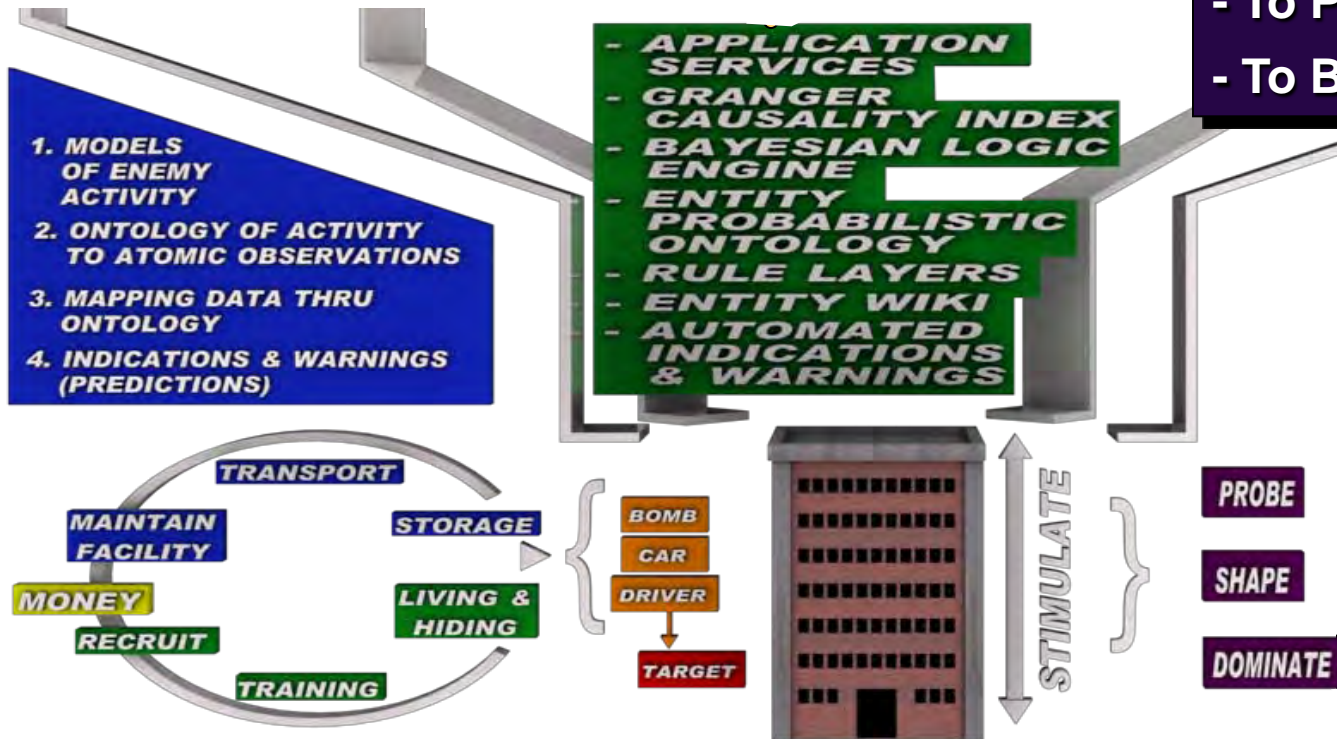
**NR**

# TACTICAL SCENARIO





**TACTICAL SCENARIO**  
Data to Knowledge...  
- To Out-Tempo  
- To Predict  
- To Become Pro-Active



# TACTICAL SCENARIO

## Stimulate/Probe, Shape, and Dominate Opportunities

### *...Moving to the left of the attack*

- Announce investigations in foreign banking and financing
- Announce intensive UAS search (with new sensor capable for detecting explosive materials)
- Announce and conduct high intensity searches of local storage facilities for explosives, detonating devices
- Utilize Facility INT capabilities to determine sudden structure changes and or building demographics
- Utilize TTL capability to determine if outsiders from known enemy provinces are present
- Utilize long range biometrics to identify known terrorists
- Conduct Computer Network Exploitation to look for email, blogs, chat rooms etc...that are referencing a future attack IOT identify, map, and track terrorist networks and terrorist activity
- Set up road blocks around probable targets



# Human Performance, Training, and Education (HPT&E)

## Vision

Expeditionary Warfighters that are physically, mentally, emotionally, and cognitively ready to deploy anywhere in the world on short notice, to serve within their team, or take on leadership roles as needed, and to complete their mission efficiently and effectively under any extremes of condition.

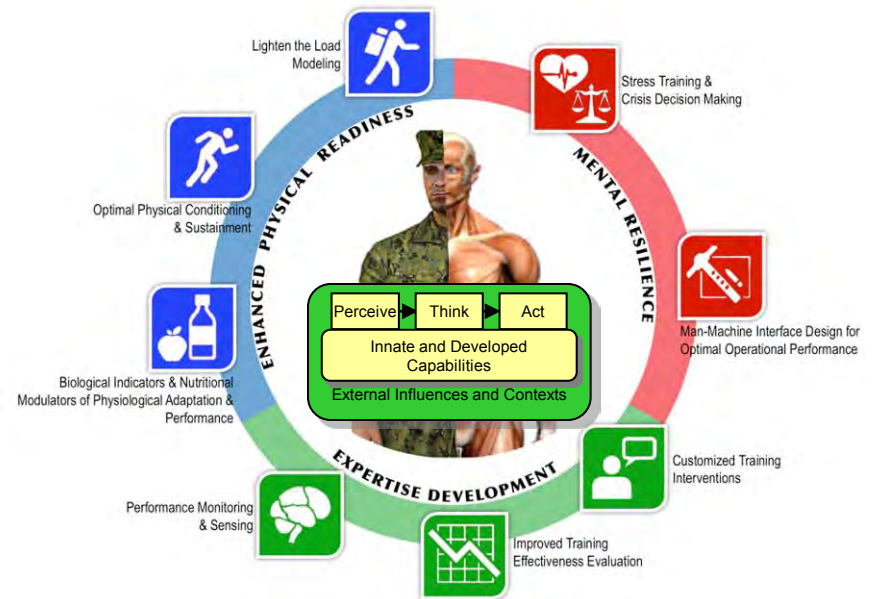
## Mission

Pursue and maintain an integrated S&T portfolio that focuses on technologies and methods for

- attaining optimal strength, endurance, agility, and resilience, and sustaining these attributes throughout deployment
- becoming impervious to heat, cold, elevation, fatigue, and stress,
- being optimally trained and prepared for any mission, and
- being able to adapt to any situation.

## Objectives

- (1) Deliver strategies that optimize physical performance and resilience in Expeditionary Warfighters (EWs) deployed to austere environments of all types for extended periods of time.
- (2) Improve the cognitive agility, flexibility, and capacity of EWs by making them mentally tough, resilient to stress, and well adapted to chaotic, irregular environments
- (3) Develop advanced training technologies and methods that enable rapid skill acquisition and development to the expert level in both individual and team tactics, techniques, and procedures for conventional and asymmetric warfare.



## Key Research / Technology Investment Areas

- (1) Enhanced Physical Readiness
  - (a) Optimal physical conditioning and sustainment
  - (b) Biological indicators and nutritional modulators of physiological adaptation and performance
  - (c) Lighten the Load Modeling
- (2) Mental resilience and cognitive agility
  - (a) Stress training and crisis decision making
  - (b) Man-Machine Interface design for optimal operational performance
- (3) Expertise development
  - (a) Performance monitoring and sensing
  - (b) Customized training interventions
  - (c) Improved training effectiveness evaluation



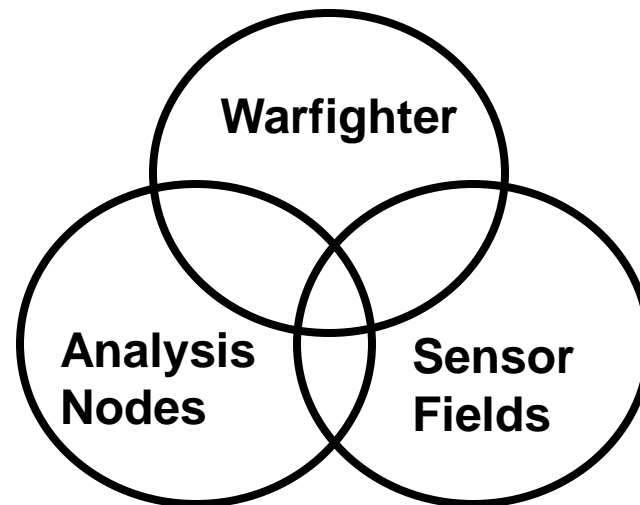
# Intelligence, Surveillance and Reconnaissance Thrust

## Vision

Enhance situational awareness and understanding to enable real time tactical decision making for Distributed Operations and provide proactive and predictive capabilities for Asymmetric and Irregular Warfare.

## Objectives

- Develop new sensors to address sensor data collection and networking gaps by developing higher information content advanced sensors, urban structure sensors, sensors that can establish identity (biometrics) and tactical sensors that can maintain surveillance over wide areas. Enable the warfighter to detect and track entities of interest.
- Develop a capability to maintain awareness of all available sensors and the mission relevance of their capabilities. Develop tools that allow the warfighter to expose enemy structure, determine intent and leverage cultural intelligence. Develop decision aids that allow the warfighter to understand how to disrupt, influence and stimulate human networks and their behavior (cognitive IO).
- Address capability gaps associated with the tactical processing of sensor data in order to enable indications and warnings. Address capability gaps associated with the translation of information to actionable intelligence, the ISR to C2 interface and ISR in direct support to C2.



## Key Research/Technology Investment Areas

- **Persistent Intelligence, Surveillance and Reconnaissance**
  - Agile sensors and signal processing
  - Networked sensor fields
- **Knowledge Generation**
  - Application services
  - Knowledge management and distribution
- **ISR to Command and Control**
  - Warfighter as a Sensor
  - Automated indications and warnings and knowledge subscription



# Human, Social, Cultural & Behavioral Modeling

## Vision

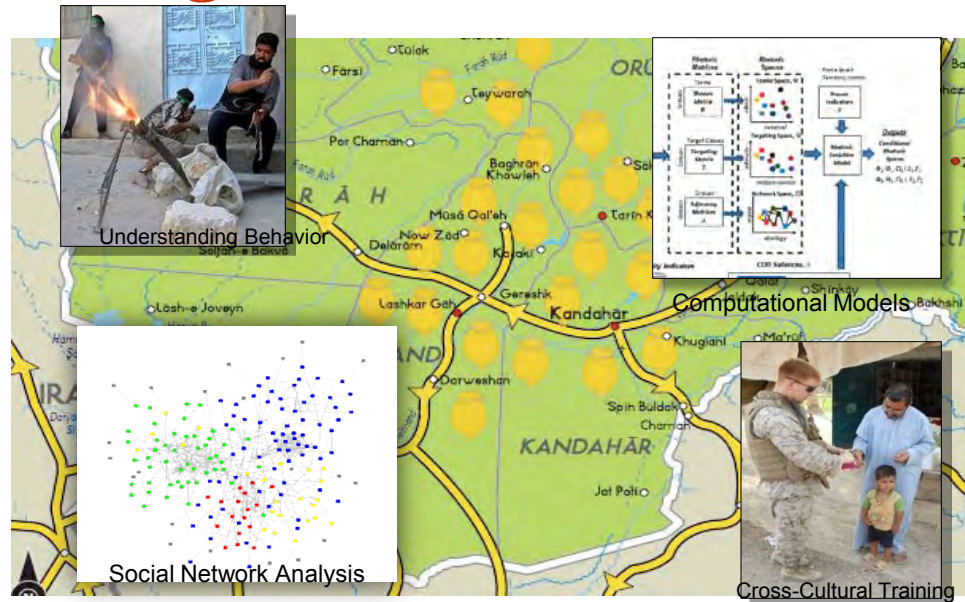
Mastery of the social, cultural and cognitive factors that optimize the warfighter's ability to influence human behavior in the full range of military operations.

## Mission

Integrated portfolio to study influence of cultural, social and cognitive factors on human behavior, develop data collection methods, build computational models, and validate operationally applicable tools.

## Objective

- (1) Advance the state of the art in social science theory to apply to Naval missions and challenges.
- (2) Develop methods and tools to enable socio-cultural data collection and generation for a range of mission and environmental conditions.
- (3) Provide analysis methods and computational models to support course of action decisions and operational planning.
- (4) Produce training and education tools and materials to support cross cultural interaction in support of Naval missions.



## Key Research and Technology Investment Areas

- (1) Theory and Understanding
- (2) Data Generation
  - (a) Methods to collect socio-cultural data in new and austere environments
  - (b) Methods and tools to generate data
- (3) Analytics and Modeling
  - (a) Analysis techniques and tools to support decision makers
  - (b) Computational Models that incorporate socio-cultural data and knowledge
- (4) Socio-Cultural Training & Education
  - (a) Methods and materials to support cross-cultural T&E
  - (b) Tools for training generalizable cross-cultural skills
  - (c) Methods and tools to improve warfighter adaptability in cross cultural



# IED Detector Dog (IDD) 2.0

## (Quick Reaction)



- **IDD 2.0 is not new experimentation**
  - Provides “replacement” IDs
  - Re-focuses efforts on highest standards and protocols
    - Selection, conditioning, training
    - Handler Selection
    - Certification
  - Re-introduces quality assurance from IDD SMEs
- **Lead: ONR Code-30**
- **MCWL in support, MOU in place**

### • **Key Objectives for IDD 2.0**

- OEF focus
- Homemade Explosives
  - Imprinted for a range of specific threat HME
  - Imprinted on components to support cache searches
- IDD stamina for OEF
- Handler selection and training focused on unique IDD parameters
- Quality assurance at all levels

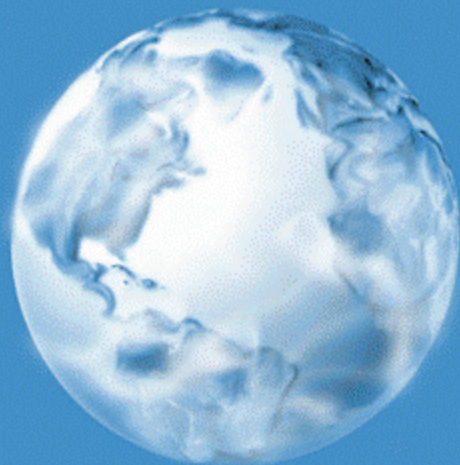
### • **Process for IDD 2.0**

- Update protocols (interim), OEF focus
  - Train dogs and handlers
  - Track progress, evaluate performance
  - Collect and assess user satisfaction
  - Final protocol change recommendations to PP&O
- 
- **MCOTEA IDD assessment in AFG**
    - MARCENT request 222001Z Apr 10
    - Report due 31 Jul 2010

**QUESTIONS**

# Atterbury-Muscatatuck

**Business Plan**



**GLOBAL TRENDS 2025:  
A TRANSFORMED WORLD**



**The DCDC Global  
Strategic Trends  
Programme**

**2007-2036**



Third Edition

the **JOE** 2010  
**JOINT OPERATING ENVIRONMENT**



READY FOR TODAY. PREPARING FOR TOMORROW.

J. JOSEPH HEWITT, JONATHAN WILKINSON, AND TED ROBERT GUN



**PEACE AND CONFLICT  
2010**

EXECUTIVE SUMMARY

PROJECT ON NATIONAL SECURITY REFORM

**FORGING A  
NEW SHIELD**

NOVEMBER 2008



**COUNCIL ON  
FOREIGN  
RELATIONS**

*Center for Preventive Action*



Council Special Report No. 45  
December 2009

Paul B. Stares and Micah Zenko

**Enhancing U.S.  
Preventive Action**



STRATEGY FOR THE LONG HAUL

**CSBA**

**Defense Planning  
for the Long Haul**

Scenarios, Operational Concepts,  
and the Future Security  
Environment

BY EVAN BRADEN MONTGOMERY



**THE WORLD  
IN 2025**

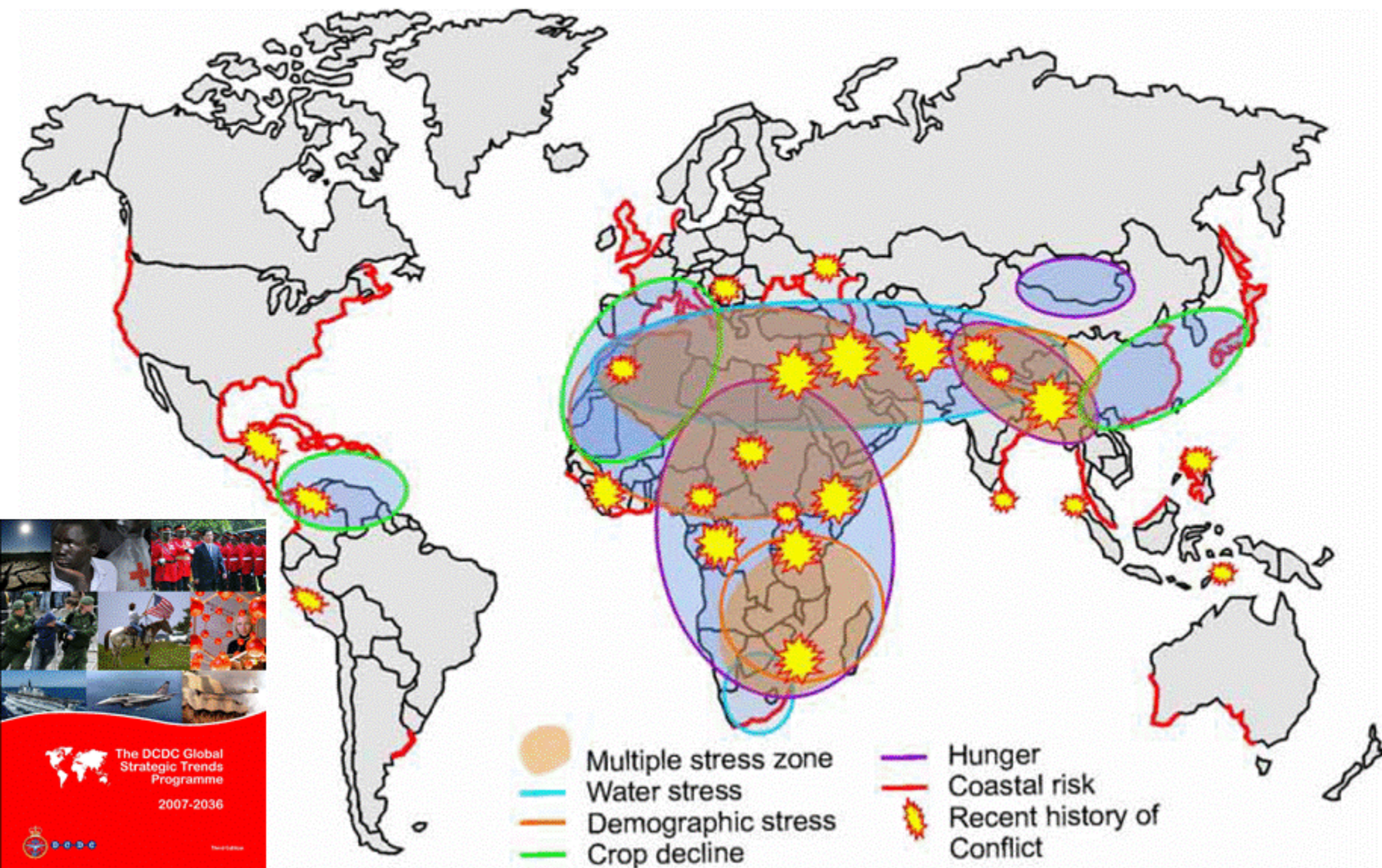
RIISING ASIA AND SOCIO-ECOLOGICAL  
TRANSITION

EUROPEAN COMMISSION  
EUROPEAN UNION

## Global Multiple Stress Zones

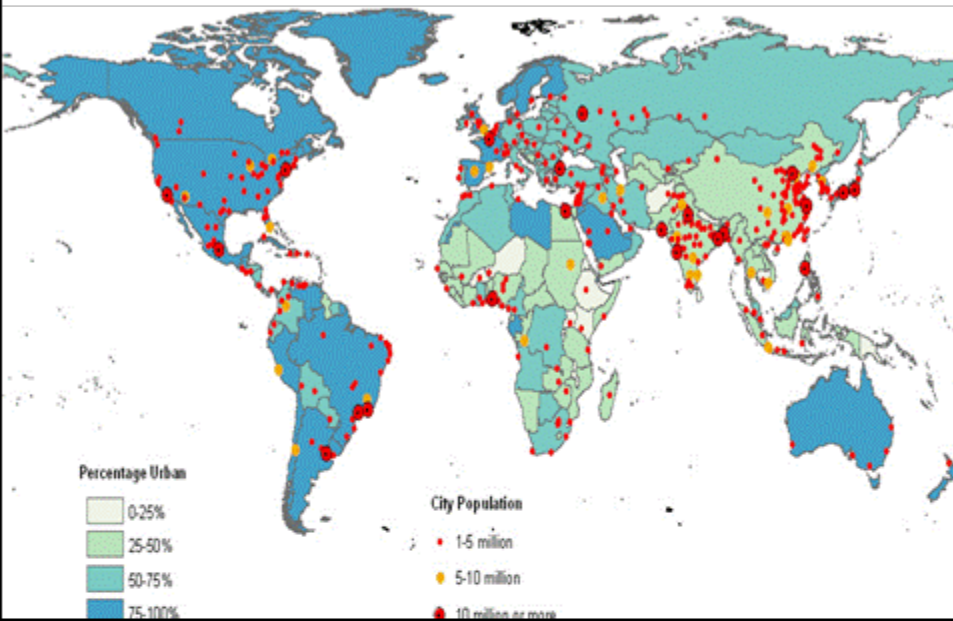
***Instability is likely to be greatest in areas of Multiple Environmental Stress***

**The DCDC Global Trends Programme 2007-2036**, Development, Concepts and Doctrine Centre, Ministry of Defence, UK



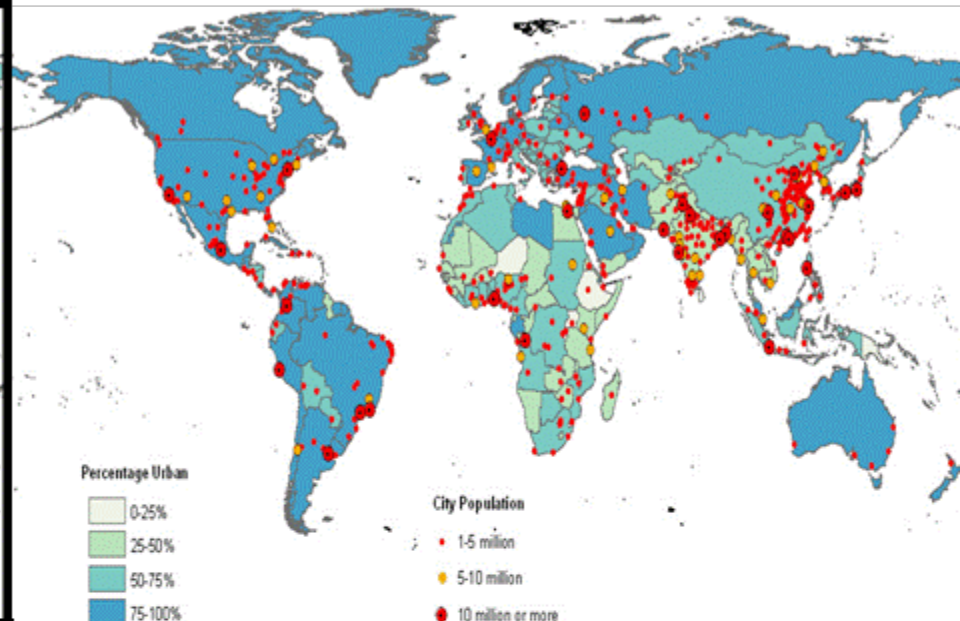
## World Urban Agglomerations in 2009

UNDESA, World Urbanization Prospects, the 2009 Revision



## World Urban Agglomerations in 2025

UNDESA, World Urbanization Prospects, the 2009 Revision



## World Population Trends

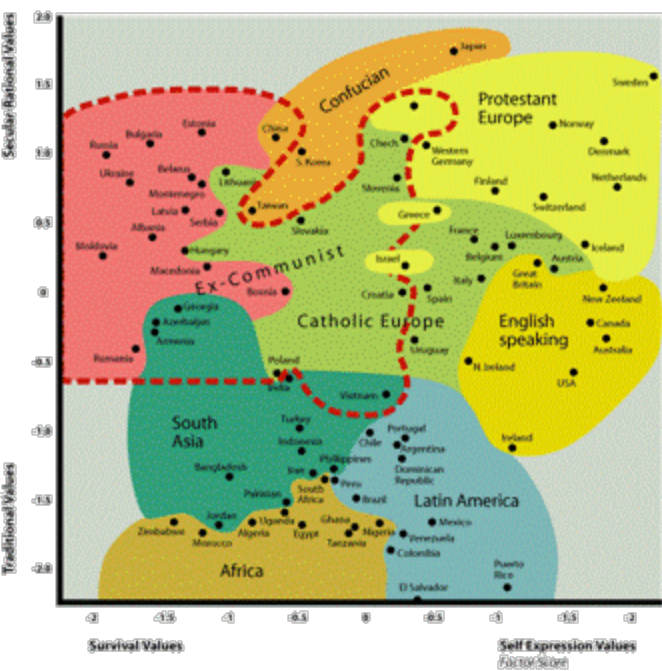
- *Four-Fifths of the World's Population Lives in Developing Countries*
- *In Africa, Asia & Latin America, % Urban Today Stands at About 40 & is Projected to Reach 54 in 2025*
- *Flow of Migrants from Villages to Cities is so Rapid that the Population Growth in Rural Areas in Developing World has Virtually Stopped.*
- *Most of the 3 Billion People Expected to be Added to World Population in Future are Going to be Added to Cities in Poor Countries*
- *In the Developing World, Cities Gain an Average of 5 Million Residents Every Month*

*"it is conceived that by 2050 there will be more people living in African cities than the combined urban and rural populations of the Western hemisphere."*

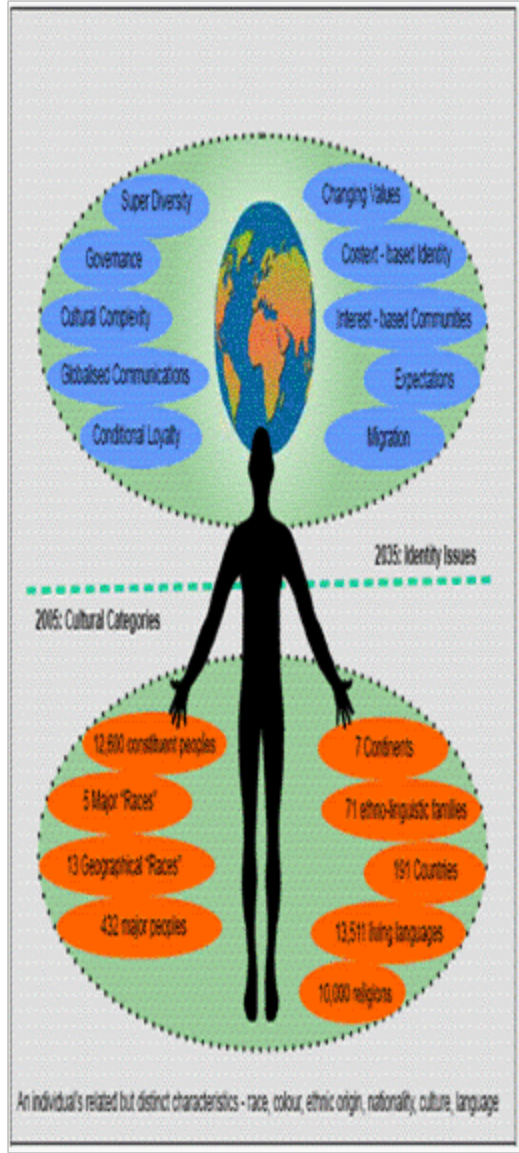
*Dr Anna Tibaijuka, Under Secretary-General & Executive Director of UN-HABITAT at the 1027<sup>th</sup> Wilton Park Conference, West Sussex, UK, 5Feb10*



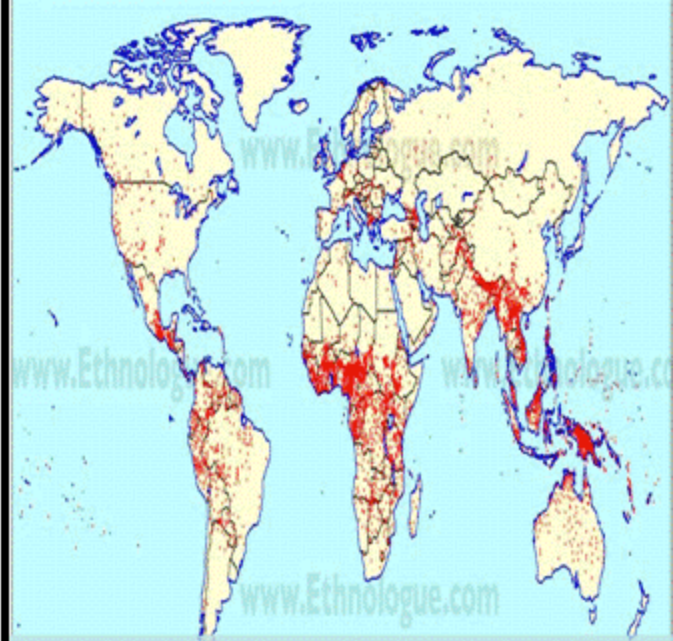
**The Inglehart-Welzel Cultural Map of the World**



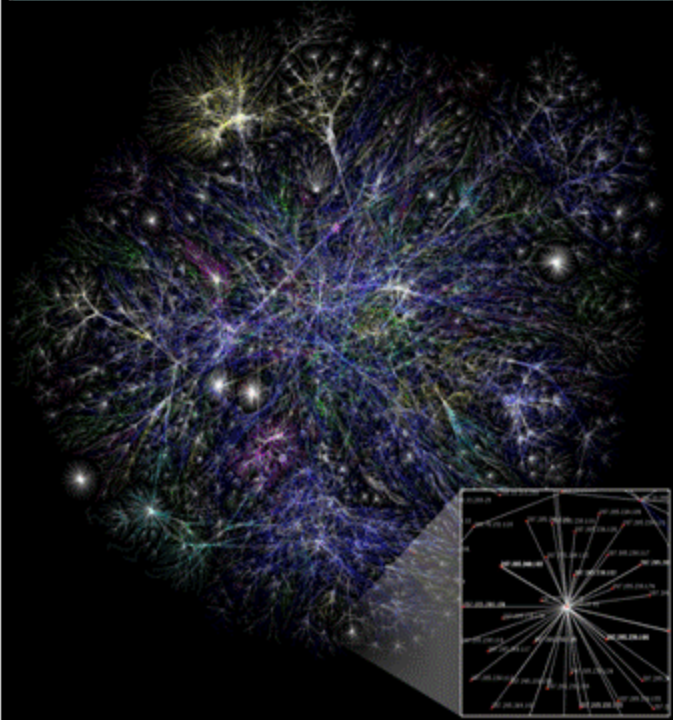
# Culture and Identity



*Increasingly, identity will be anchored less to fixed cultural categories, shifting instead according to context and interest*



**6,192 Living Languages in the World**



# Hybrid Warfare

"The future threat thrives in the information environment."



"Warfare and other activities in the three dimensions (information, physical and cognitive) of the information environment, but especially in the cognitive dimension, pay off early and substantially for the future threat."



"The advent of 'open source warfare' is yielding a time dividend for the future threat."

"...The time required to develop a new, and potentially unrepeatable capability, will become shorter, reducing a state actor's ability to sense and respond to the threat, but without sacrificing any political benefit for the future threat."



"...future threats will work to employ cheaper means to create rather costly effects within advanced societies, often bypassing their military forces altogether."

"On 9/11... a \$250,000 attack was converted into an event that cost the United States over \$400 billion (with some estimates as high as \$1,000 billion in damage to the U.S. economy)"



Hamas Method of Operation "Human Shield"

"Lawfare"  
"The future threat will also examine the work of legal and ethical constraints that surround governance and warfare, and attempt to manipulate and redefine these constraints in order to maximize their strategic, operational, and tactical advantages while minimizing their opponents'."



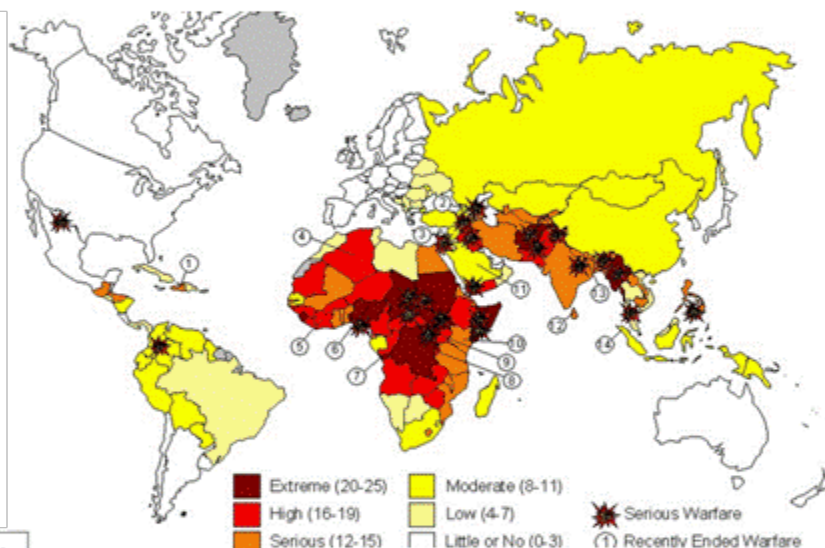
Rocket launched in Gaza Surrounded by a Group of Children



Children and Civilians Killed Surrounded by Children

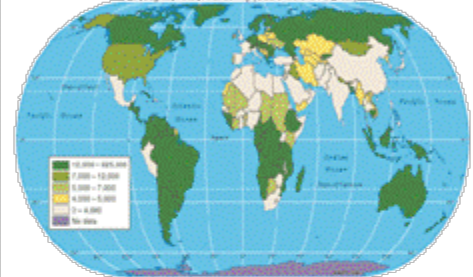


## 21<sup>st</sup> Century Operating Environment



## World Water Availability

Per Capita Water Availability (Cubic Meters Per Year)



## World Development

Worst and Least Developed Regions



## World Values Map



## Corruption Perceptions Index 2009



***“In an increasingly interconnected world, progress in the areas of development, security and human rights must go hand in hand. There will be no development without security and no security without development.”***

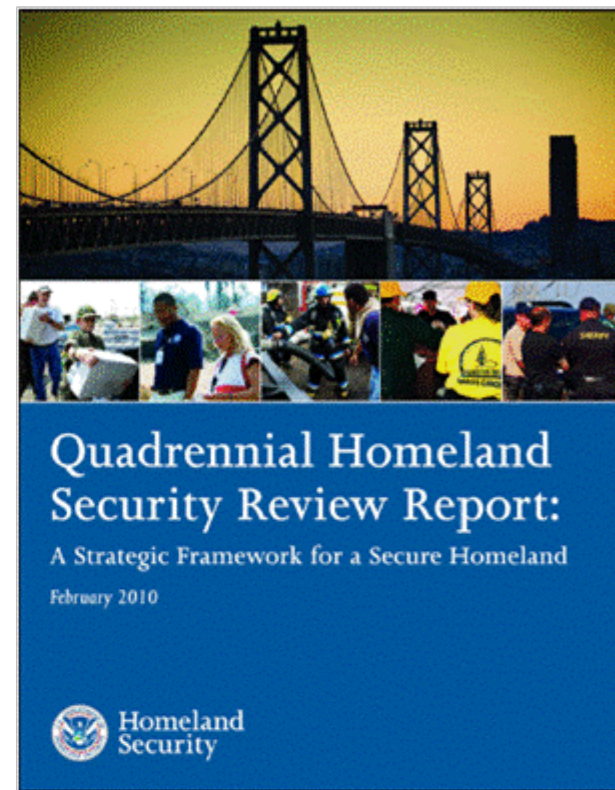
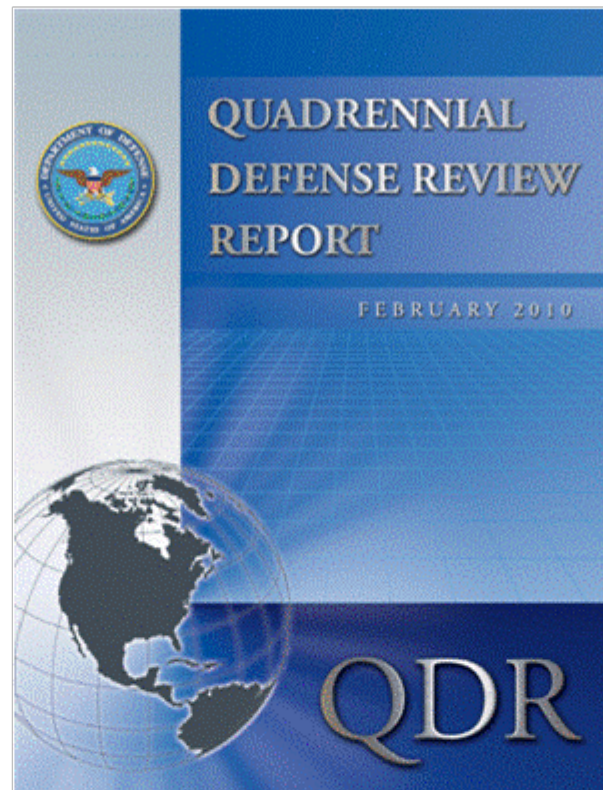
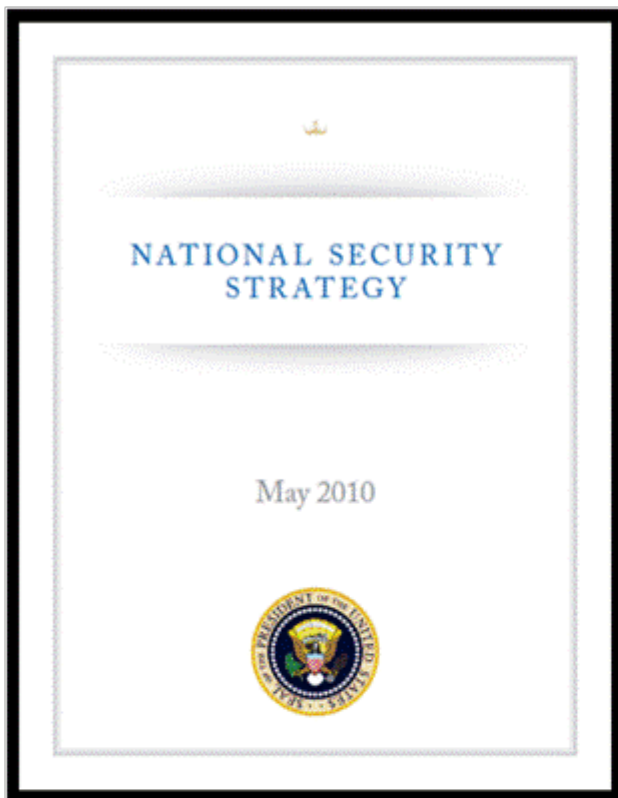
*Kofi Annan, Secretary General, United Nations, 2005*

***“There are 12 departments, 25 agencies and nearly 60 government offices involved in American foreign assistance programs.”***

*“PSD-7: At a Glance,” Posted by Rebecca Williams in Analysis, 10May2010*

***“Since 1991, the United States has undertaken six post-conflict reconstruction missions, in Somalia, Bosnia, Haiti, Kosovo, Afghanistan, and Iraq. Each time, experts say, the government reinvents the wheel.”***

*Traci Hukill, “Daily Briefing: Congress Weighs Creating Nation-Building Agency,”  
National Journal, 3May2004*



**Presidential Study Directive 7**  
***A New Way Forward on***  
***Global Development (Draft)***

***Quadrennial Diplomacy and***  
***Development Report (Draft)***

***The Global Partnership Act of***  
***2010 (Draft)***

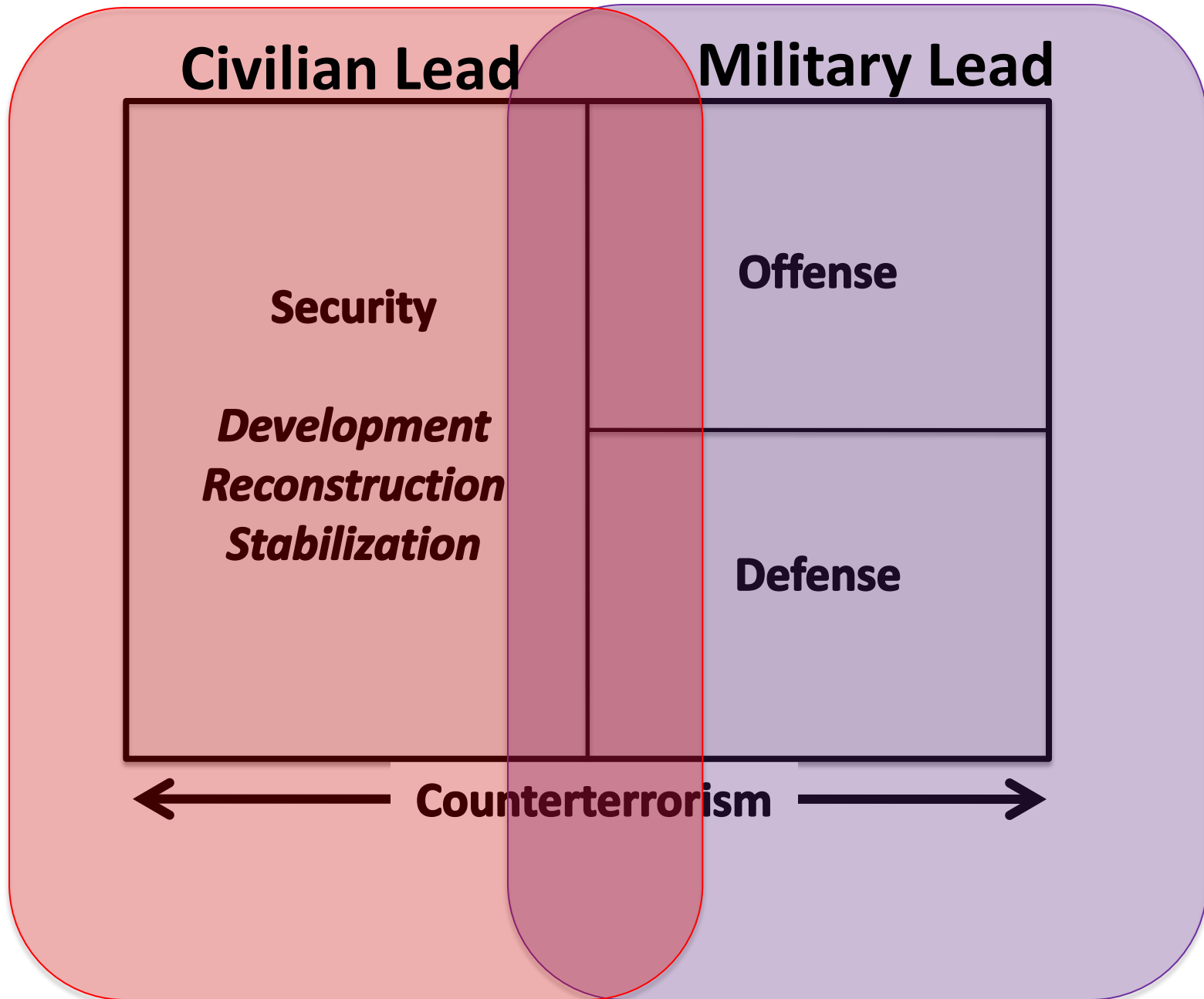
# A Defense Plan for the 21<sup>st</sup> Century

Washington Post, August 1, 2010

By Stephen J. Hadley and William J. Perry, Co-Chairs, Quadrennial Defense Review Independent Panel

*“Our panel discussed the capabilities our government must develop and sustain to protect America's enduring interests. . . . While the missions falling to today's military lend themselves to increasingly "whole of government" solutions, the civilian elements of national power -- what Gates has called the "tools of soft power" -- are insufficient and have been imperfectly integrated into the process. We need greater civil operational capacity to deploy civilians alongside our military and to partner with international bodies, the private sector and nongovernmental organizations in a "comprehensive approach" to dealing with failed and failing states where our interests are threatened.”*

# Full Spectrum Operations



**Civilian Lead**

**Military Lead**

**Civilian Lead**

**PHASING MODEL**

**SHAPE**

**Phase 0**

**DETER**

**Phase I**

**SEIZE  
INITIATIVE**

**Phase II**

**DOMINATE**

**Phase III**

**STABILIZE**

**Phase IV**

**ENABLE  
CIVIL  
AUTHORITY**

**Phase V**

**PREVENT  
PREPARE**

**CRISIS  
DEFINED**

**ASSURE FRIENDLY  
FREEDOM OF  
ACTION/  
ACCESS THEATER  
INFRASTRUCTURE**

**ESTABLISH  
DOMINANT FORCE  
CAPABILITIES/  
ACHIEVE  
FULL-SPECTRUM  
SUPERIORITY**

**ESTABLISH  
SECURITY  
RESTORE  
SERVICES**

**TRANSFER TO  
CIVIL  
AUTHORITY  
REDEPLOY**

# Vision

***Provide to the Nation the Most Realistic, Fiscally Responsible, Contemporary Operating Environment Possible in Which to Mobilize & Train the Whole of Government/Whole of Nation Team to Accomplish Missions Directed Towards Protecting the Homeland & Defending the Peace; Provide to that Team Responsive Reach-Back Capability Once Deployed; & Support the Conduct of Operational Testing & Evaluation of Technologies that Support Those Missions.***

# Create a Complex Environment

*CA-MCCO Task = Create an Accurate "Context" in Which the "Whole of Government" & "Whole of Nation" Team Can Share a Collective, Team of Equals Experience Prior to Employment in Harm's Way & Where Technology Solutions Can Be Rapidly Tested, Integrated & Deployed in Support of Those Teams*

## **Effort Directed Towards Creating a Complex Environment in 3 Vectors:**

### ✓ **Complex Physical Terrain**

- ✓ *Realistic Urban Terrain Building Types & Urban Terrain Zones (IAW ARL-TR-4395, Urban Terrain Building Types, 2<sup>nd</sup> Edition)*
- ✓ *Compromised Infrastructure: Power, Water, Sewage & Communications Grids, Destroyed/Damaged Buildings, Slums, Urban Canyons*
- ✓ *Urban Clutter: Vehicles, Equipment & Building Furnishings, Rubble, Waste, etc.*

### ✓ **Complex Informational Terrain**

- ✓ *Media – Radio, Television, Print, Internet*
- ✓ *Communications/Information Systems: Cell Phone (European), Land Line, Internet*
- ✓ *Electromagnetic Spectrum: Tune-able to Specific Locales*

### ✓ **Complex Human Terrain**

- ✓ *Realistic Population Density: Employing the "95%" Construct*
- ✓ *Social System: Economic, Law, Political, Cultural/Language*
- ✓ *Primary Group Structures: Family, Community, Clan, Tribe*
- ✓ *Secondary Group Structures: Government, Parties, Factions, Military, Police, Corporations, Businesses & Industries*
- ✓ *Hybrid Threat: Conventional, Guerrilla, Terrorist, Criminal*

*Employing Live-Virtual-Constructive Mediums*

# Atterbury-Muscatatuck Business Model

**Atterbury-Muscatatuck** employs a “network effect” operating model to generate two major values for the customer: a highly realistic training/assessment environment at a cost-benefit ratio virtually impossible to achieve if attempted alone; and, the opportunity to collaborate as a “team of equals” with other agencies and entities that will be critical to mission success. Collaboration is affected while ensuring that each agency retains total control of its program.

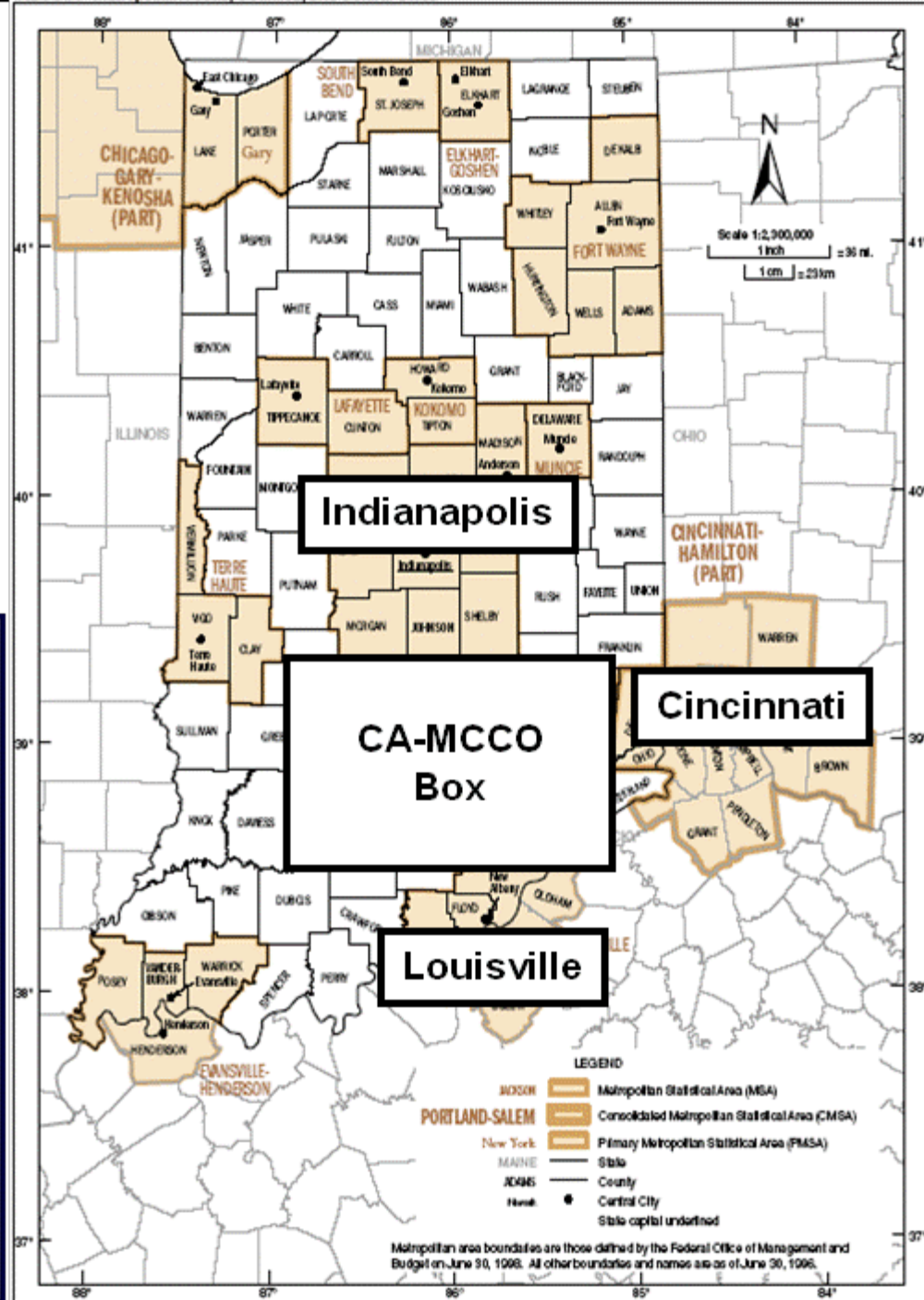
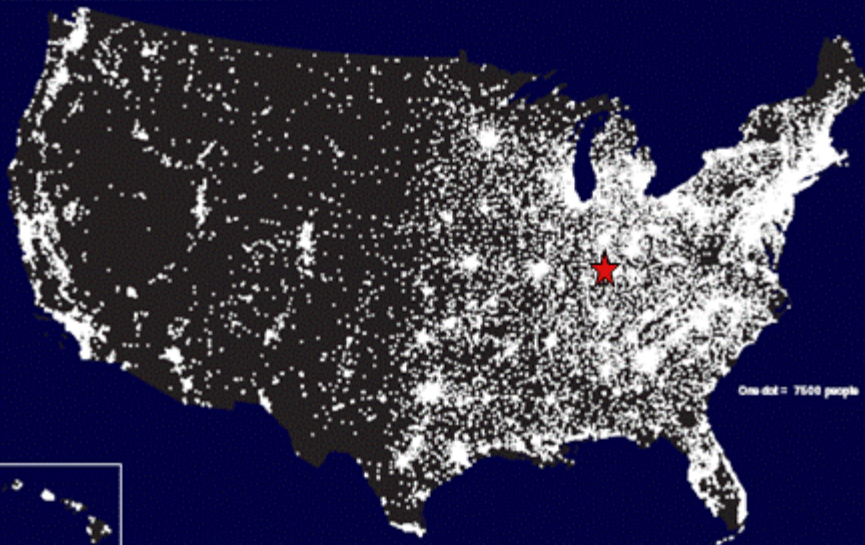
# Business Alliance



# Atterbury-Muscatatuck Training-Testing Box

- Collaborative, Non-Contiguous, 21<sup>st</sup> Century Operating Area
- Readily Adaptable to the User's Requirements
- Centrally Located in US Population; Easily & Economically Accessible

2000 POPULATION DISTRIBUTION IN THE UNITED STATES



Metropolitan area boundaries are those defined by the Federal Office of Management and Budget on June 30, 1998. All other boundaries and names are as of June 30, 1998.



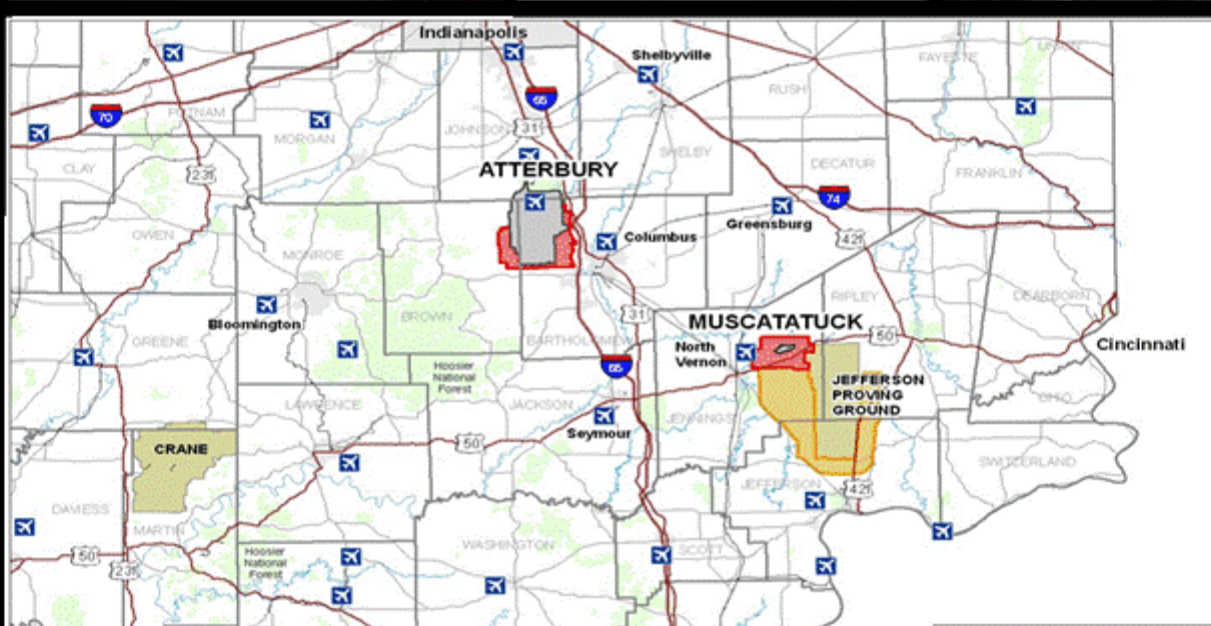
**North Vernon**



**Purdue Agriculture Centers**

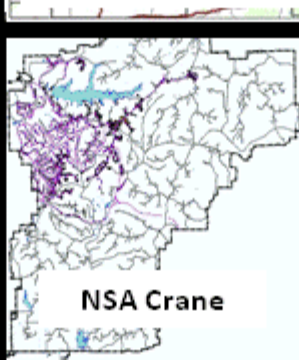


**Columbus**



## Atterbury-Muscatatuck Box

*Example Collaborations Providing Extensive Menu of Training-Testing Venue Opportunities Supporting Both Kinetic & Non-Kinetic Requirements*



**NSA Crane**



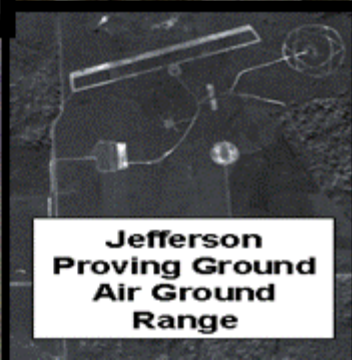
**Camp Atterbury**



**Muscatatuck**

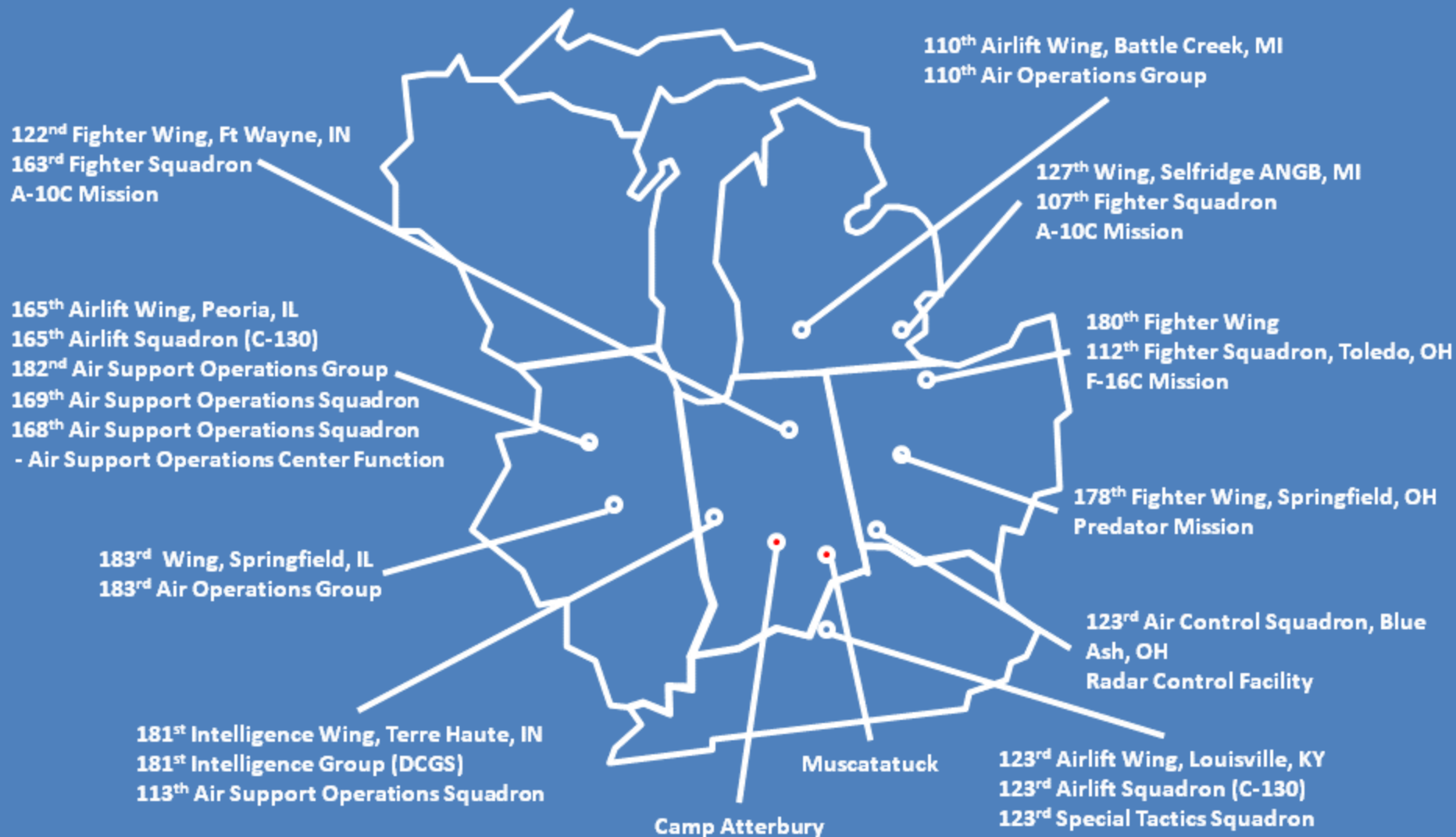


**Atterbury Air Ground Range**



**Jefferson Proving Ground Air Ground Range**

# *Regional Air Capabilities*



30 Minutes Longitude

## Atterbury-Muscatatuck Airspace

*Provides Realistic Training-Testing Venue for Manned & Unmanned Aerial Platforms*

15 Minutes Longitude

15 Minutes Latitude

30 Minutes Latitude

188LU2

189LU1

189LU2

190LU1

188LU4

189LU3

189LU4

190LU3

188LT2

189LT1

189LT2

190LT1

For Official Use Only  
Not Releasable to Public



FOB Nighthawk



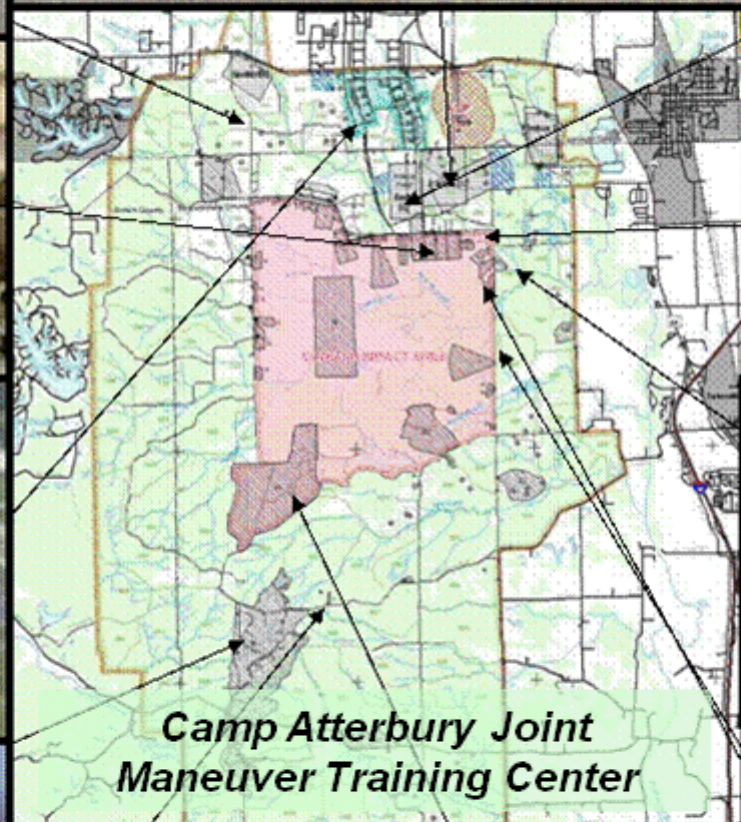
Confined-Space Rescue Building



Himsell Airfield



Sniper KD Ranges



Camp Atterbury Joint  
Maneuver Training Center



FOB Warrior



JSTEC



Mobile MOUT



Multi-Purpose Training Range



Sniper Tower



Air-Ground Range



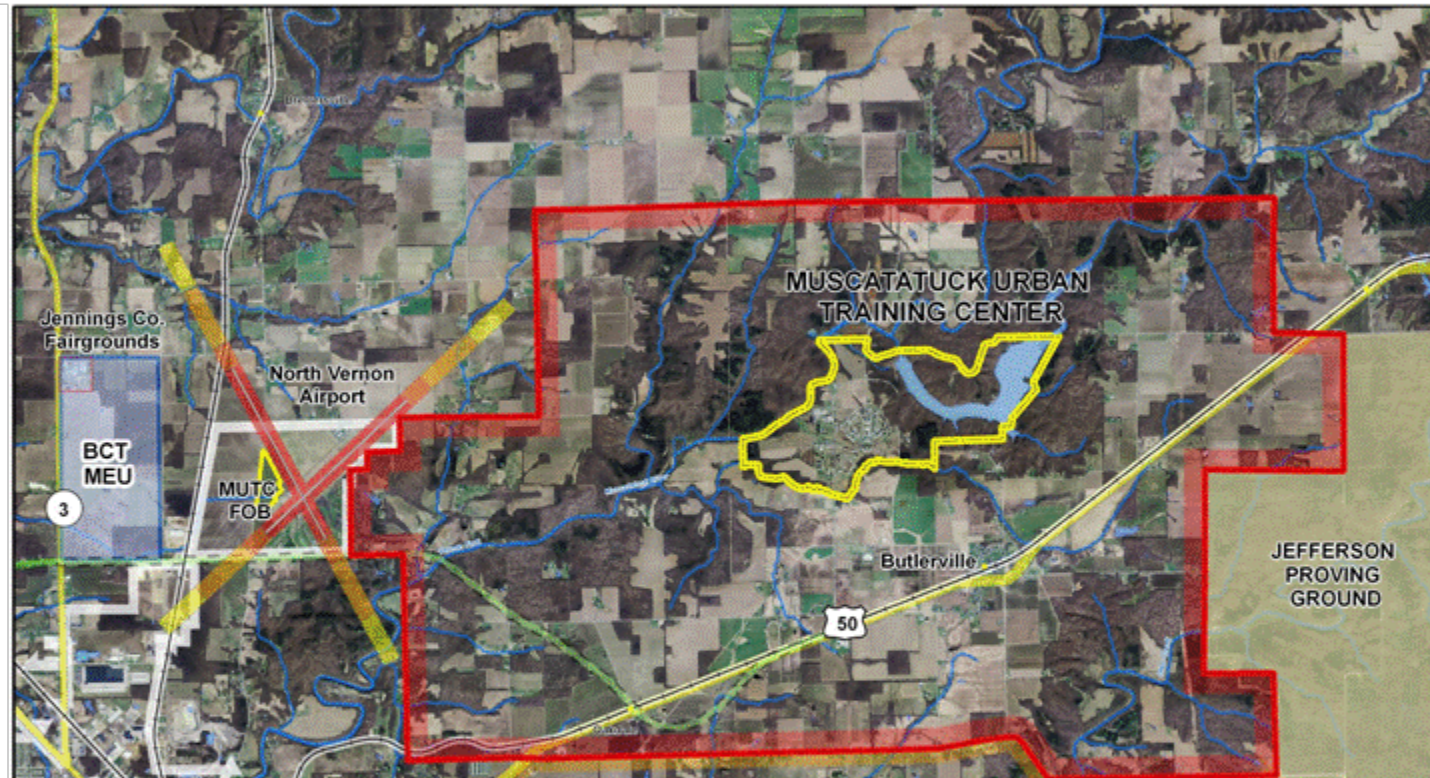
UAC/LF Shoot House/Breach Course





# Muscatatuck Extended Urban Landscape

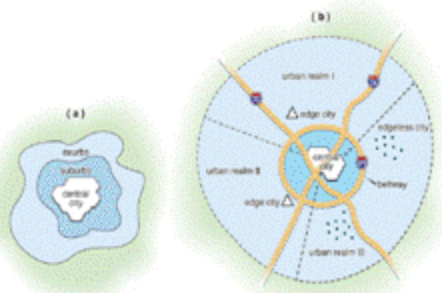
## *The Muscatatuck Megapolitan Area*



## Urban Hierarchy



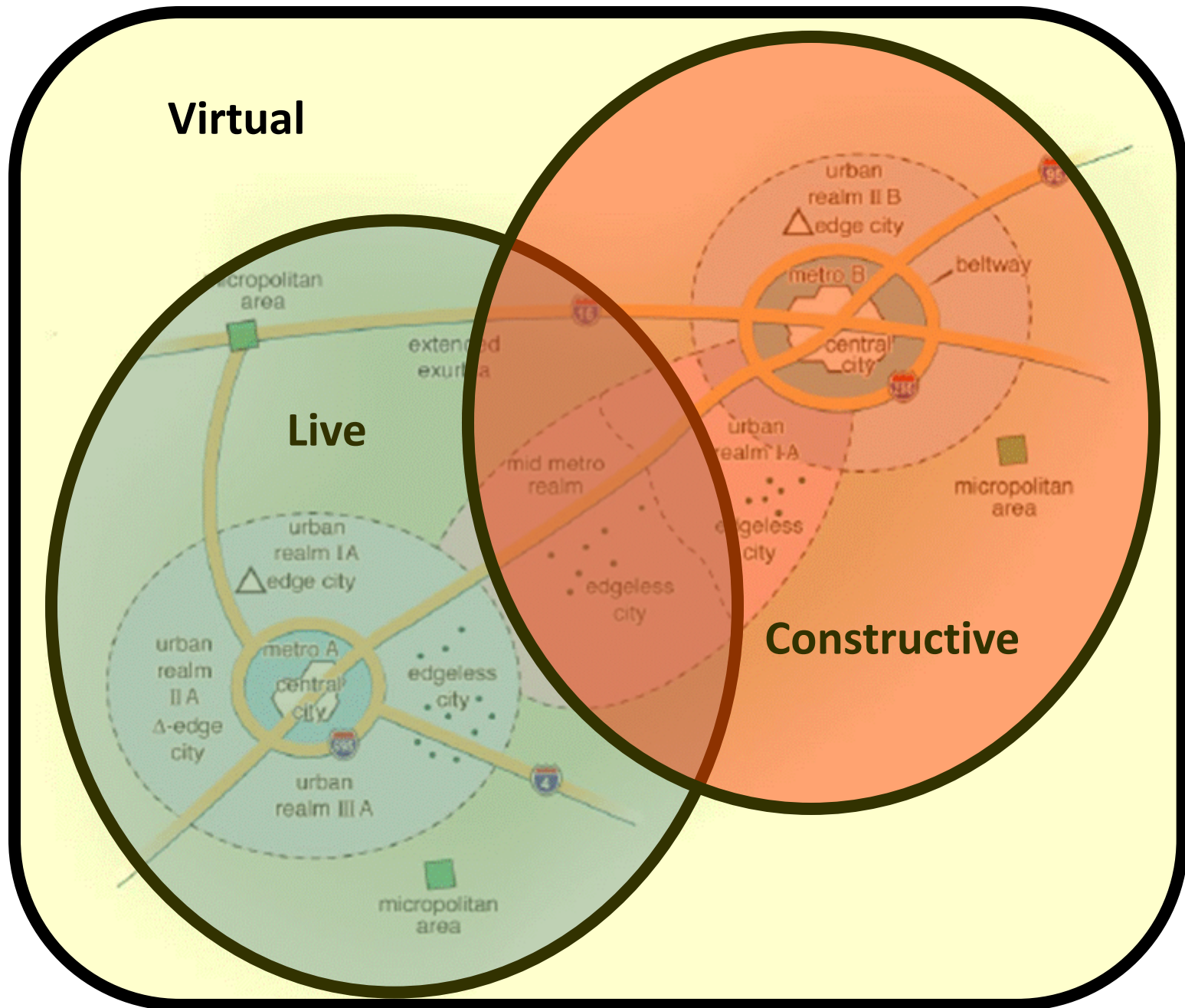
## 20<sup>th</sup> Century Metropolitan Form



## 21<sup>st</sup> Century Megapolitan Form



# 21<sup>st</sup> Century Megapolitan Form



# Atterbury-Muscatatuck Business Plan Programs (*Stone Soup*)

## Whole of Nation Training and Deployment Center

ARNG Maneuver Training Center (Heavy)	USAF ANG Atterbury CAS Air-Ground Range	USN SEAL Scout/Sniper Training Center	US NORTHCOM CCMRF Training Center	DoS FSI Integrated Civilian- Military Training Center
First Army Mobilization Training Center	USAF ANG JPG CAS/PGM Air-Ground Range	USMC II MEF Realistic Urban Terrain Training Site	DoD Civilian Expeditionary Workforce Training Center	DoD Regional Urban Training Facility
USA FORSCOM Force Generation Installation	Civil Air Patrol Training Center	USMC 4 <sup>th</sup> MARDIV Training Center	DoD Ministry of Defense Advisors Training Site	Indiana DHS Training Site
DA Advanced Urban Operations Training Facility	USAF JFAC Training Site	USMC MCIS SIGINT Operator Certification Training Center	US SOCOM Training & Mobilization Site	
ARNG Regional UAV Training Center	USAF Irregular Warfare Training Center	DoS Foreign Disaster Assistance Training Center	Foreign Police & Security Force Training Center	DoD Regional Homeland Response Force Training Center

## Technology Rapid Assessment, Evaluation & Integration Center

DA ATEC Technology Assessment & Evaluation Center	DoD Joint Urban Environment Test Capability	US SOCOM Technology Assessment & Evaluation Center	NAVSEA Crane Technology Assessment & Evaluation Site	Private Sector Technology Test, Assessment & Evaluation Site
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## Contemporary Operating Environment & Business Operations Cost Efficiencies

US FORSCOM & US ARNG Camp Atterbury Installation Support Unit	First Army Training Support Brigades	ARNG Patriot Academy	ARNG Regional Training Institute	ARNG MUTC Operations Group Wolf
Indiana ARNG Atterbury Armory	Indiana ARNG Combined Support & Field Maintenance Shops	Muscatatuck Small Business Incubator	MEP-IN ARNG Translator/Role Player Staging Base	State of Indiana Indiana Guard Reserve
State of Indiana CA-MCCO HQ's & Business Office	State of Indiana MUTC Installation Staff	State of Indiana Department of Corrections Service in Kind Workforce	IU-IN ARNG Indiana Complex Operations Partnership	VU-IN ARNG Fire Fighting Training Center

# CIVILIAN RESPONSE

Coordinator for Reconstruction & Stabilization U.S. Department of State



Abenteuer Afghanistan



협상장 나서는데 '평'... 아프간을 옮겨놓은 듯

## BBC NEWS Training for the civilian surge in Afghanistan



BBC News, Muscatuck Urban Training Center, Indiana  
The Afghan governor walked down the main market street, chatting with US soldiers and civilians as an armoured personnel carrier stood guard on a corner.  
I hope to make a difference one Afghan man child woman at a time  
Jerry Calhoun



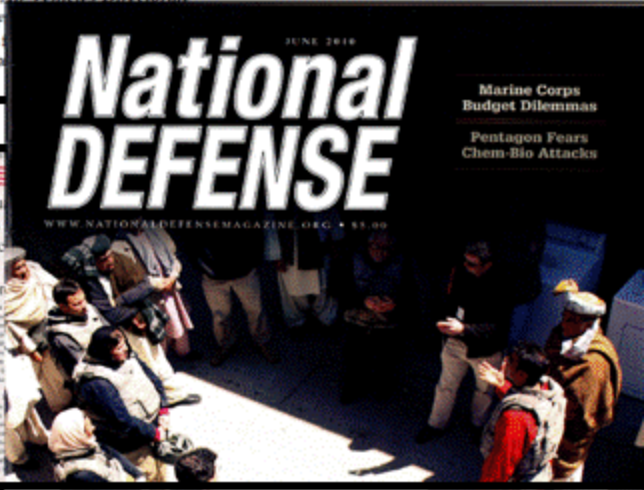
## US Military Train for Terror



December 2006

## AFRL tests unmanned air vehicle in urban terrain

by Holly Jordan, AFRL Air Vehicles Directorate  
WRIGHT-PATTERSON AIR FORCE RESEARCH LABORATORY scientists tested an unmanned aerial vehicle in October, as part of a training exercise in an urban environment.



## Exercise tests guard soldiers on contamination procedures



Indiana Guard transforms Muscatuck into urban training center  
The Indiana National Guard is transforming a two-story yellow brick building in Muscatuck, Indiana, into an urban training center for soldiers. The building, which was once a school, is now being used to simulate an urban environment for training purposes.

## The Washington Post

### This Is War: How USAID workers are trained work and danger in Afghanistan

By Kristin Henderson  
Sunday, July 4, 2010; W22

The two-story yellow-brick building had seen better days

### DoD civilians to get war-zone deployment training



## THE WALL STREET JOURNAL

WSJ.com  
DECEMBER 18, 2009

### Training for the Civilian Surge

Stresses of Afghanistan Deployment Are Simulated at Rural Indiana  
By JAY SOLOMON  
MUSCATUCK, Ind. -- A former mental hospital in the woods ground for one of the biggest deployments of U.S. civilians since War.

## La guerra de Afganistán se ensaya en Indiana

En Campo Atterbury se realiza el curso de entrenamiento



Marcin Wrona  
BAZA MUSCATUCK, INDIANA

## cyberpresse.ca

Publié le 13 décembre 2009 à 10h10 | Mis à jour le 10 décembre 2009 à 10h10

### Se préparer aux réalités afghanes... en Indiana



Richard Mills, collaboration spéciale  
Camp Atterbury, Indiana | Parallèlement à l'opération militaire en Afghanistan, le gouvernement américain s'apprête à déployer des milliers de civils américains et de responsables afghans. Ils se dirigent vers un camp à Kandahar, une province située à la frontière des zones tribales du Pakistan, où les talibans et les combattants d'Al-Qaïda ont réouvert leurs bases.  
À pied ou à bord de véhicules blindés, une douzaine de soldats escortent un groupe composé de civils américains et de responsables afghans. Ils se dirigent vers un camp à Kandahar, une province située à la frontière des zones tribales du Pakistan, où les talibans et les combattants d'Al-Qaïda ont réouvert leurs bases.  
Ce déplacement risque à tout moment de déclencher des affrontements locaux. Les associations de journalistes formulent par un chef d'accusation contre le gouvernement américain. Elles dénoncent le groupe armé à la recherche des premiers talibans, l'ouverture d'une enquête sous le couvert du marché, suivi de tirs d'armes légères. Des meurtres effectués.

# ***Atterbury-Muscatatuck***



***As Real As It Gets***

# ***US Special Operations Command***

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## **USSOCOM Perspective on Unmanned Aircraft Systems (UAS)**

**CAPT Gregory Kniff, USN**

**USSOCOM J33**

**Joint Reconnaissance Branch (JRB)**

**11 August 2010**



# J33 Joint Reconnaissance Branch



**Deploying SOF-Unique  
ISR Capabilities in  
support of current  
global special  
operation missions**

Scan Eagle Launch From NSW MK V Craft



# JRB Overview

- Coordinates deployment of all SOCOM ISR assets
- Facilitates deployment of additive ISR supporting SOF by leveraging service programs, capabilities and demonstration efforts
- Maintain situational awareness of all ISR supporting current deployed SOF operations
- Coordinate GCC ISR Request for Forces (RFF) related to SOF
- Coordinate limited ground collection efforts, particularly where complimentary to airborne collection assets





# USSOCOM UAS Platforms

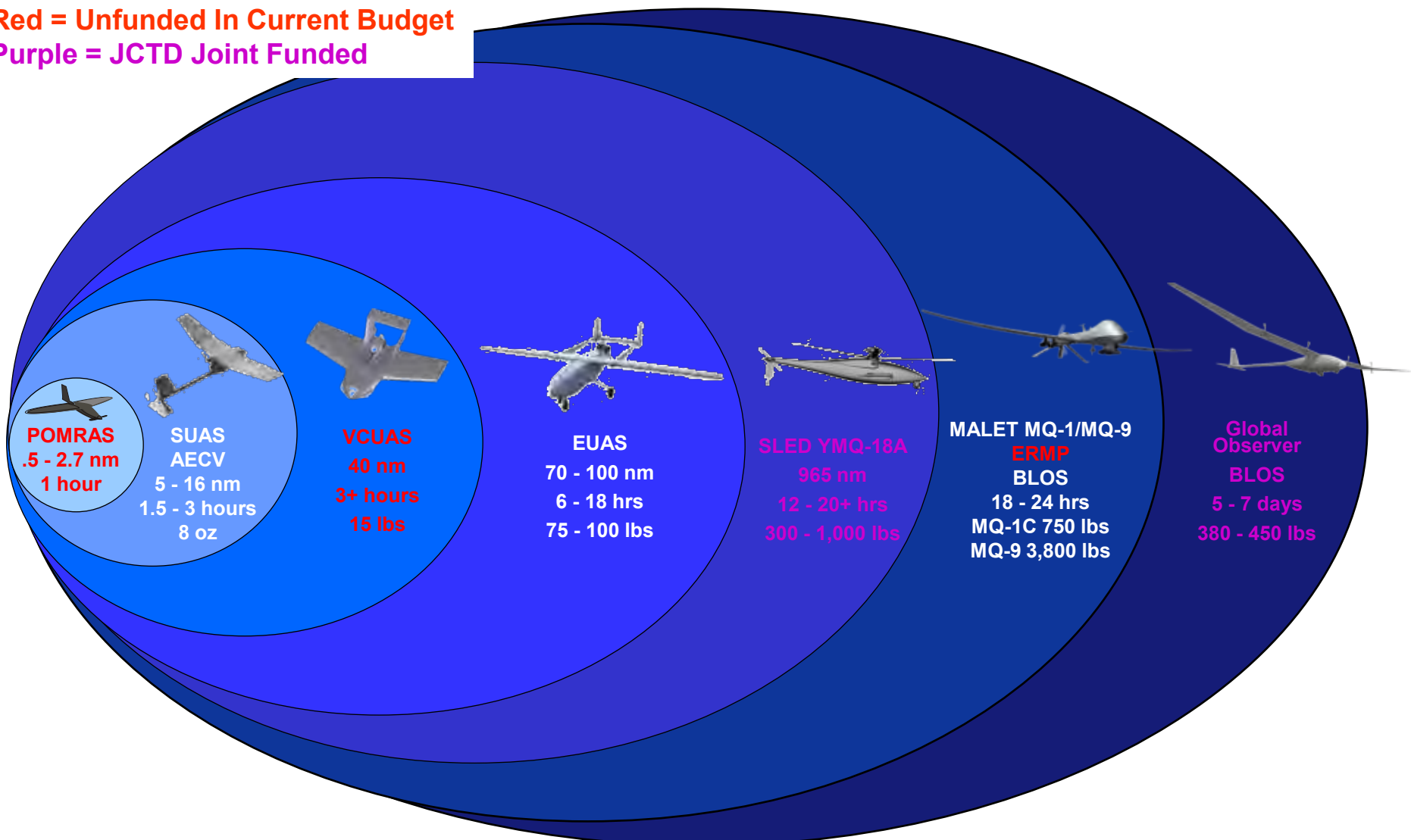


**J33-JRB**



# USSOCOM UAS Portfolio

Red = Unfunded In Current Budget  
Purple = JCTD Joint Funded





# Small UAS (SUAS)

***Rucksack Portable System for Maneuver Units to Provide Increased Situational Awareness with a Modular & Interoperable UAS***



- Material Solution to the RPUAS JORD
- CMN-S Transitioned to Joint Program with USA/USMC
- Full Operational Capability in FY08
- Technology Enhancements in Payloads, Image Processing, and Data Links

## Key Performance

- 90 Min Endurance
- 5 nm Data Link Range
- Up to 1,000 Ft AGL Surveillance Altitudes
- Up to 10,000 Ft MSL Operating Altitudes
- Single Person Hand Launch
- Modular EO or IR Sensor

Attribute	SUAS
Wingspan (ft)	4.6
Length (ft)	3
Payload (lbs)	0.5
GTOW (lbs)	4
System Weight (lbs)	25

System: 3 UA, 1 GCS, 1 FRK, 3 EO & 2 IR Payloads



# SUAS

## All Environment Capable Variant (AECV)

***Provides SOF Tactical Units a Highly Mobile UAS Capable of Being Deployed from Both Land and Maritime Mobility Platforms***



- Captures Technology Advances & Additional Operational Requirements Since RPUAS JORD
- Enhances the Survivability and Utility of the Current SUAS Materiel Solution
- Expands the Operational Envelope:
  - High Moisture/Rain & Snow/ High Humidity
  - Reduced Acoustic Signature
  - Repeated Landings Fresh & Salt Water

### Key Performance

- 135 Min Endurance
- 11 nm Data Link Range
- Up to 1,200 Ft AGL Surveillance Altitude
- Up to 14,000 Ft MSL Operating Altitude
- Single Person Hand Launch
- Gimbaled Dual EO/IR Payload

Attribute	AECV
Wingspan (ft)	9.2
Length (ft)	4.7
Payload (lbs)	1.2
GTOW (lbs)	12
System Weight (lbs)	50

System: 3 UA, 2 GCS, 1 FRK, 1 RVT, 3 EO/IR Payloads



# Expeditionary UAS (EUAS)

***Provides a Dedicated UAS to Provide Land and Maritime ISR Capabilities to SOF Task Groups and Squadrons***



## Key Performance

- 6 Hours Endurance with 100 Pound Payload
- 70 nm Data Link Range
- 10,000 Ft MSL Flight Altitudes
- Fully Automatic Take-Off and Landing
- EO/IR Sensor

- 5 Year, IDIQ Contract Awarded To L-3 Communications 11-Sep-09
- Currently Building First System
  - 6 Aircraft, 2 Ground Control Stations, Spares
  - Scheduled Delivery Spring 2010
- Operator Training Following Delivery
- Operational Assessment Prior To First Deployment

Attribute	Viking 400
Wing Span (ft)	20.0
Length (ft)	15.0
Payload (lbs)	Up To 130
MGTOW (lbs)	530
Empty Wt (lbs)	336
Engine (Hp)	38



# Medium Altitude Long Endurance Tactical (MALET)

## *USAF Capability with SOF Unique Capability Areas for Rapidly Deployable Persistent ISR and Precision Strike*

- Low Collateral Damage Precision Guided Missile
- Assets-Co-located w/Ground Elements
- Control from CONUS
- Transmission of Full-Motion-Video
- Signals Intelligence



**MQ-1**



**MQ-9**

MQ-1 Predator	Attribute	MQ-9 Reaper
Rapid Deployment	Mission	Precision Strike
48	Wing Span (ft)	66
585	Useful Load (lbs)	5,600
2,300	MGTOU (lbs)	10,000
25,000	Op Altitude (ft)	50,000
135	Max Airspeed (KIAS)	>220



# SOF Long-Endurance Demonstrator (SLED) - YMQ-18A

***Developmental VTOL UAS capable of supporting variable payloads/ missions with medium altitude and long-endurance***



## Key Performance

- 18+ Hours Maximum Endurance
- 160+ mph Max Speed
- 20,000 Ft Hover Out of Ground Effect
- Vertical Take-Off and Landing
- Multiple payload capabilities

- FY05 ACTD demonstrated long-endurance and capability to support multiple payloads
- Post-JCTD User Evaluation On-Track
  - Demonstrate integration with FOPEN radar
- Multiple organizations exploring potential CONOPS
  - Counter IED; Cargo/Precision Resupply; ISR
- SOF VTOL UAS CDD in staffing

Attribute	YMQ-18A
Rotor Dia. (ft)	36.0
Length (ft)	35.0
Payload (lbs)	Up To 1,000
MGTOW (lbs)	6,500
Empty Wt (lbs)	2,500



# Global Observer

## Joint Capability Technology Demonstration

***Address Current Capability Gap in Persistent ISR, Communications Relay and PSYOP Broadcast with a High-Altitude, Long-Endurance UAS***



### Program Objectives

- Flight endurance of 5 days at 65,000 feet
- Flight endurance of 7 days at 55,000 feet
- Payload capacity of 380 lbs
- Flight Testing & Demonstrations in CY10
- Potential Transition for Extended User Eval in FY11

Role	Organization
Oversight Executive	DUSD AS&C
COCOM Sponsors	USSOCOM and USSTRATCOM
Lead Service	United States Air Force (USAF)
Technical Manager (TM)	USSOCOM SORDAC-FW
Operational Manager (OM)	Air Force Special Operations Command
Transition Manager (XM)	USAF ACC
Government Partner	ASAALT, DHS, and DTRA
Industry Partner	AeroVironment Inc. (AV)





# USSOCOM J33 JRB

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## Perspective/Observations



# UAS Perspectives

## ■ UAS Demand will continue to expand

### ➤ But have experienced the “ground floor” of DOD demand

- 3 Caps (MQ-1) 2003 to currently 40+ caps —> ~60 caps 2012
- Growth facilitated by:
  - “Open skies” in AFG/Iraq with DOD controlling combat assets
  - Minimal certification/standardization
  - Surges ordered at senior DOD levels
  - ISR Task Force formed

### ➤ DOD demand continues to grow

- Services continue building respective programs
- “Truck” aspect remains important, but DOD continues to refine specific/technical capabilities and payloads

### ➤ Transition to entities outside US DOD: Customs, NOAA, Law Enforcement, Foreign Countries opens additional market share opportunities



# UAS Perspectives

- **UAS facilitators to continued growth**
  - **Resolving Airspace Issues: CONUS and OUTCONUS**
    - Haiti issue with UAS/Airspace
  - **“Sense and Avoid” technology**
  - **DOD/FAA Regulation**
  - **Pilot/Crew Training Standardization/Requirements/Currency**
  - **Safety/Reliability track record**
  - **Public opinion/trust**
  - **RPA vice UAS**
  - **Encryption**
  - **Bandwidth/Satellite time/Frequency congestion**
  - **Modular Payloads**



# UAS Perspectives

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- **Near-Term Factors Affecting UAS Demand/Employment**
  - **Planned Iraq drawdown from now through Dec 2011**
  - **Demand for small UAS likely lessen as large become more prevalent**
  - **Future engagement will focus more on host/partner nation collaboration**
  - **Air Space/POLMIL issues may spur small manned aircraft option**
    - Flying manned aircraft poses little/no airspace concern
    - Manned aircraft less conspicuous
    - However minimal growth planned for manned aircraft (Liberty)
      - P-3 operating under HONA/eventual replacement by P-8
      - Army Guardrail RC-12, Guard RC-26, MARRS



# Summary

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- Experienced accelerated UAS growth in past 9 years primarily to service Iraq/Afg engagement.
- To transition employment of UAS elsewhere outside Iraq/Afg and migrate utilization to other-than-military applications, different set of challenges will need resolution to facilitate further growth.
- Until challenges to “open sky” UAS operation are resolved, may see some tapering of demand tempered with balance of small manned aircraft.



# Questions??



# ***Navy's Vision for Confronting Irregular Challenges***

*presented to the  
NDIA Special Missions Conference*

---

**CDR Bruce 'Crash' Defibaugh  
OPNAV N3N5IW**



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# *Navy's Focus*

---

- Underlying Conditions of Instability
- US Navy's Vision for Confronting Irregular Challenges
- Implementation of the Navy Vision
  - Reorient, Rebalance, Refine
- Innovations / Studies / TTX
- Way ahead...

***In the face of significant shifts in the nature and character of the threats our nation faces, the Vision will guide our efforts to prevent, limit, and interdict irregular threats and adversaries.***



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## *Underlying Conditions of Instability*

---

- Collection of Diverse Strategic Vectors
  - Climate Change, Energy, Demographics, Natural Disasters, Water, Food Shortages, Pandemics...
- Exerting Increasing Influence on Global Stability...Centered in the Littorals
- Persistent Engagement key to ensuring stability in fragile “Maritime Neighborhoods”

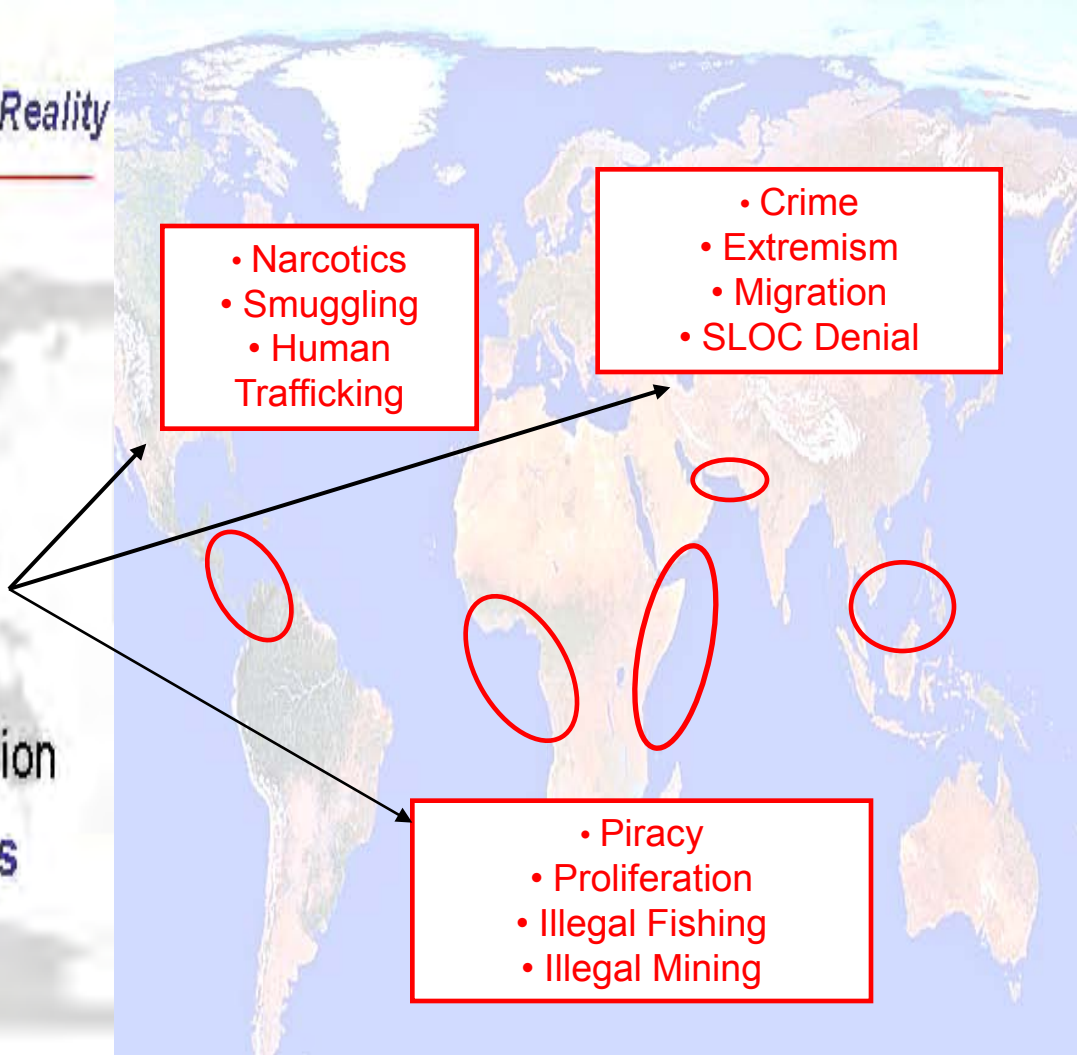


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# Fragile “Neighborhoods” in the Maritime Environment

*Irregular Challenges... Dealing with the New Reality*

- Iraq/Afghan--the current fight we are in,  
*But...*
- Irregular Challenges are a global concern  
*...Persistent and Enduring*
- The world's littorals are central to the solution
  - **Core Networks** are **Maritime Networks**



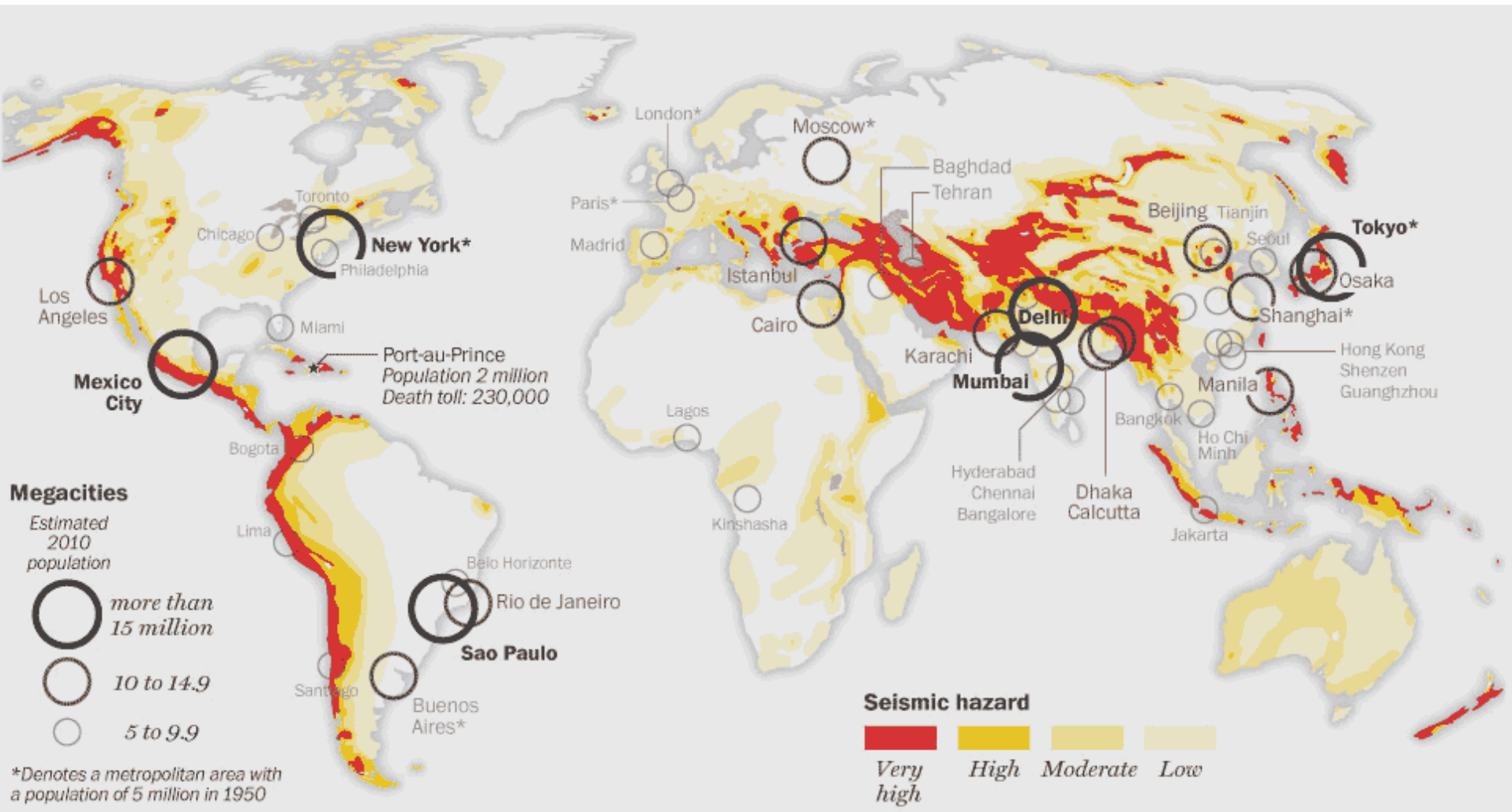
**Navy...*potentially* the most significant contributor to this newly acknowledged security environment**

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# Humanitarian Assistance / Disaster Relief

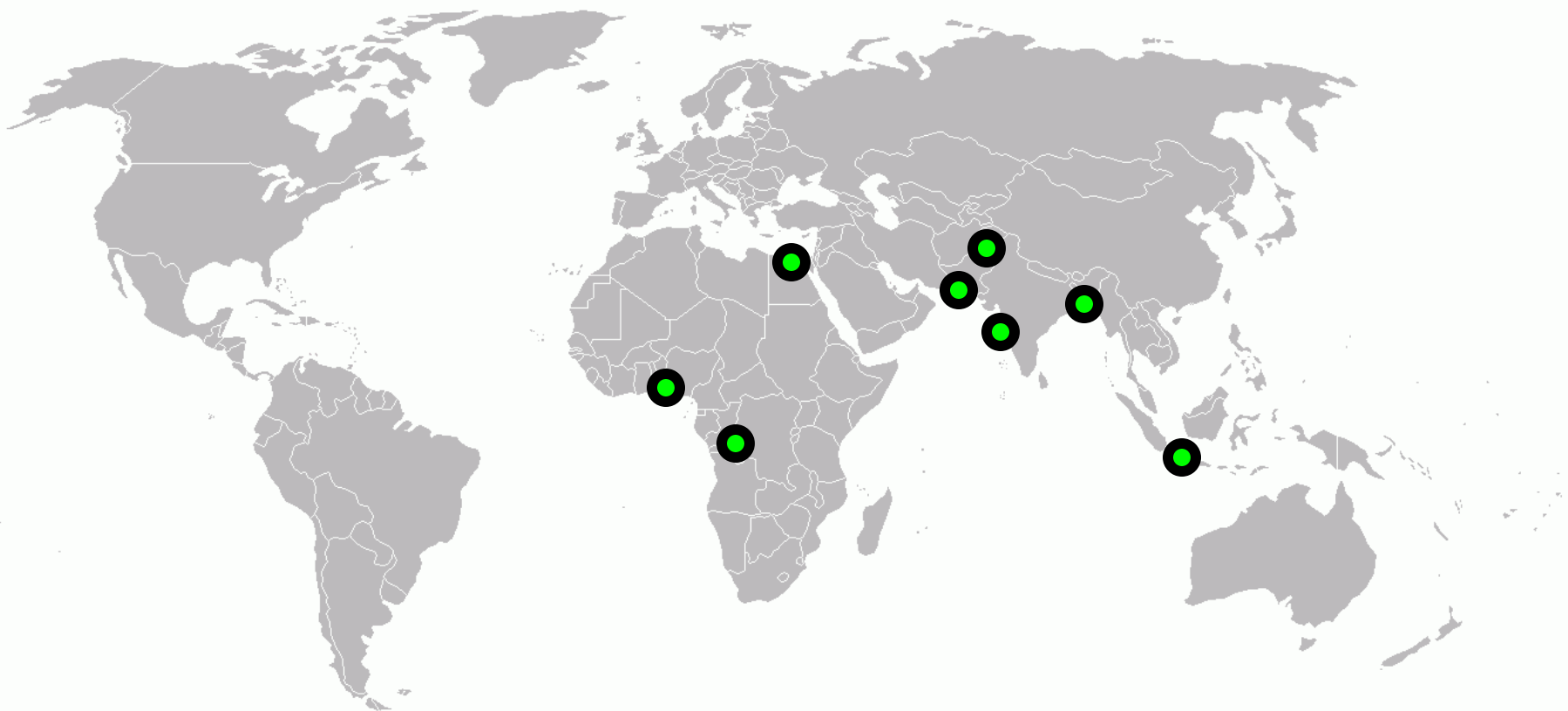




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# ***Waning Governance***

“Mega-Eights”

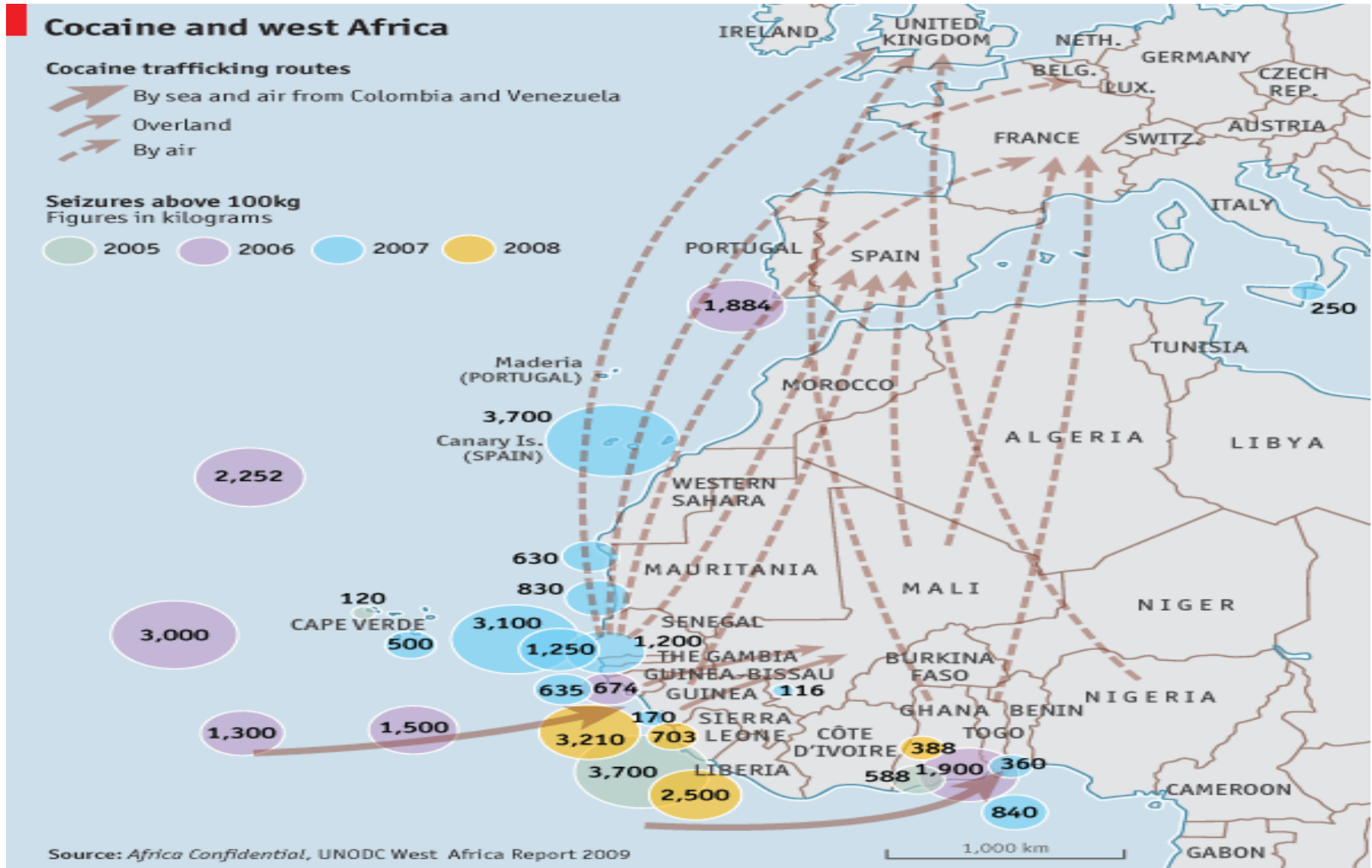


***“Overflowing, Ungovernable, Growing Rapidly...” Foreign Policy  
Research Institute***



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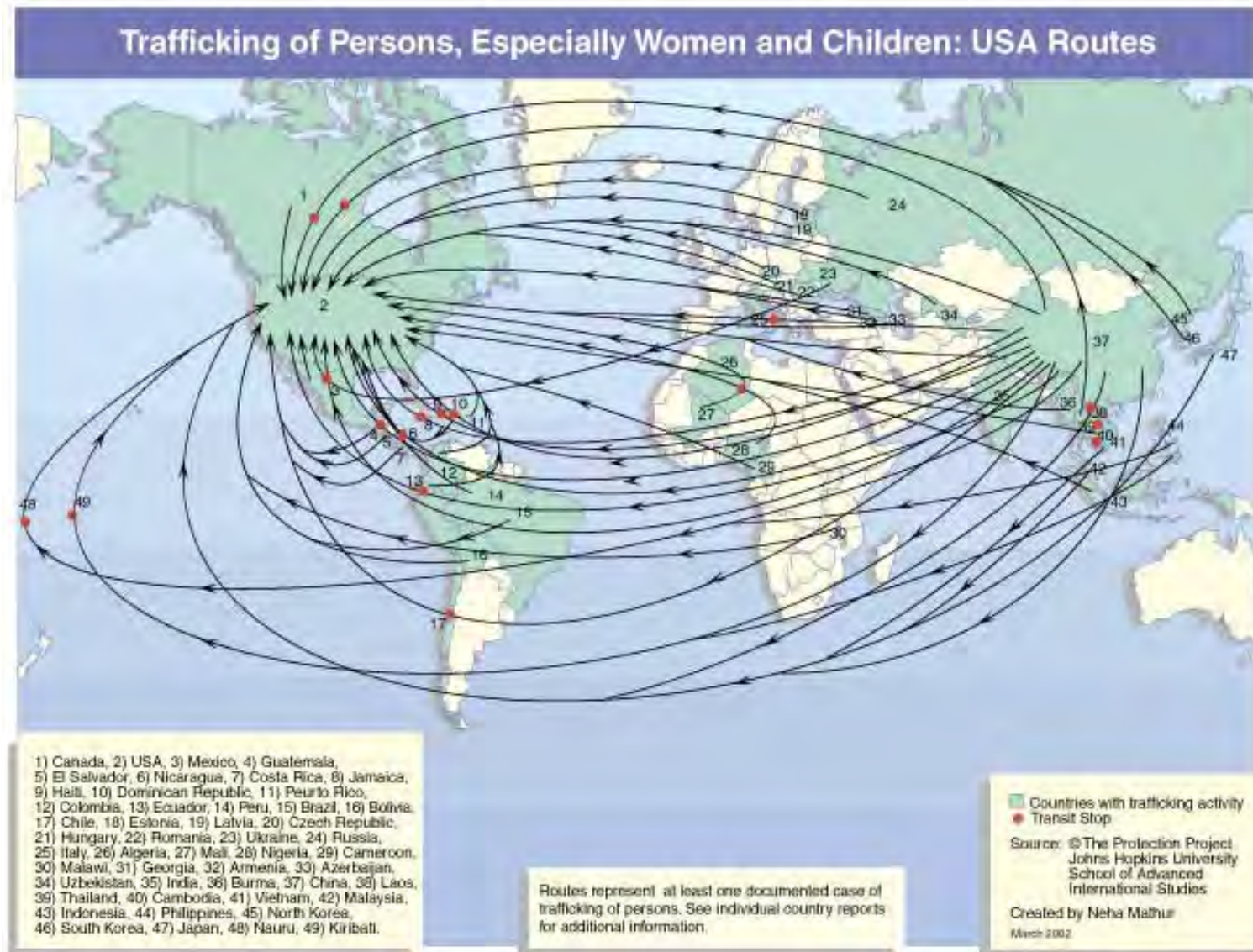
# Transnational Threats: Drugs





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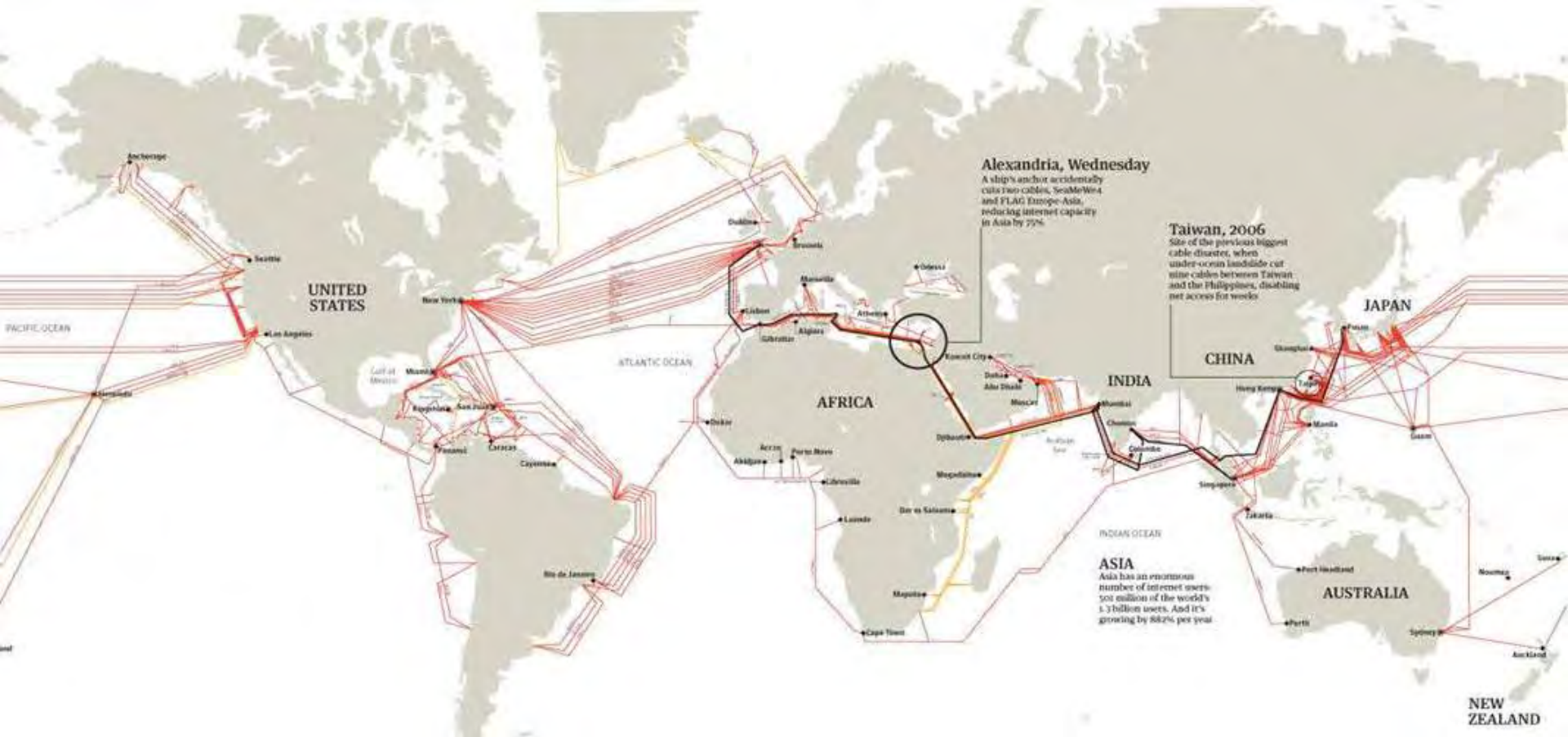
# Human Trafficking





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# Information Backbone



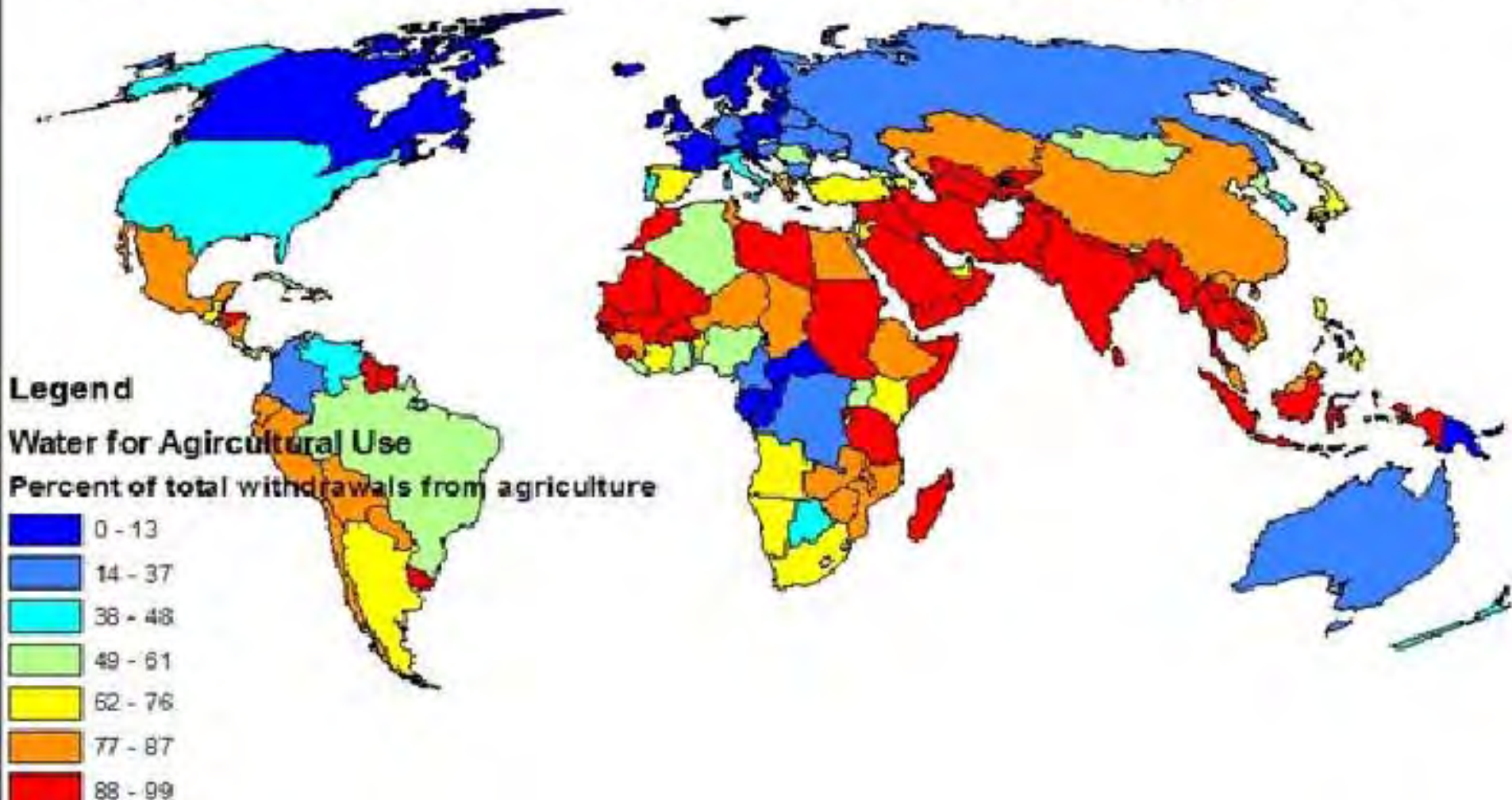
***“The Internet swims with the fishes” ADM Roughead***



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# *Agriculture's Impact*

## Percent of Total Withdrawals from Agriculture

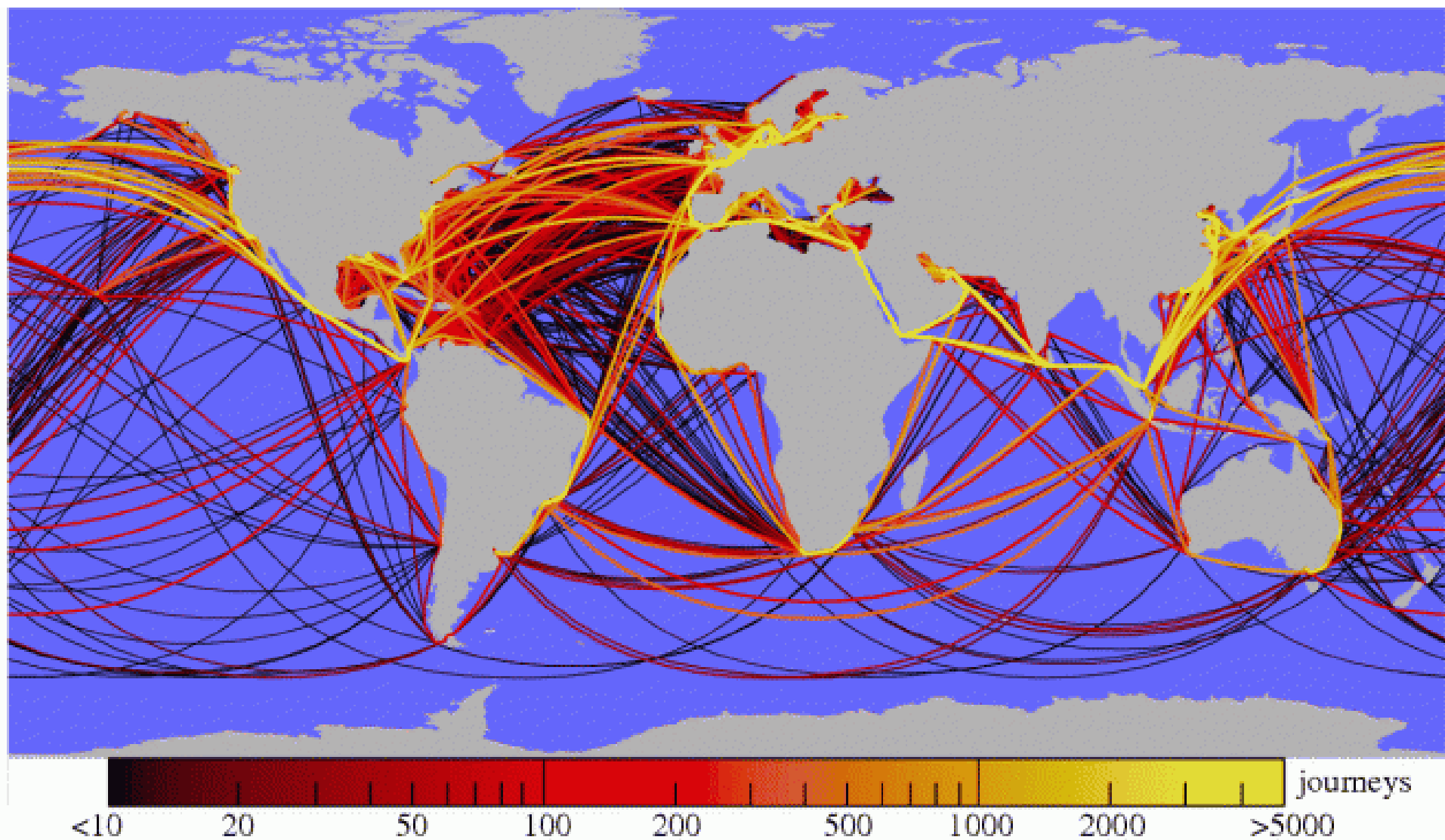


SOURCE: University of Michigan Study "GMO's: Friend or Foe?"



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# Major Shipping Lanes





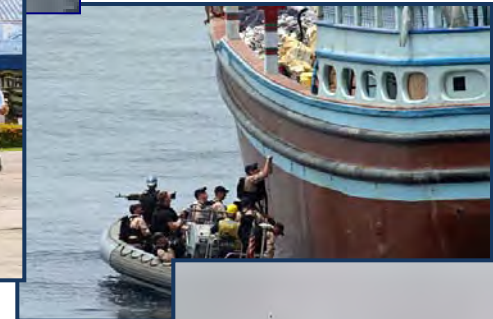
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# *The Mandate...Confront Irregular Challenges*

"The Navy needs to be about winning the peace."  
- CNO



"...we can not kill or capture our way to victory."  
- SEC Gates



"Our national security is threatened... by fragile states either unwilling or unable to provide for the most basic needs to their people."

- ADM Olson



***...Across the spectrum – Preventive Security to Conflict  
...Where Navy Lives!***



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# ***“Irregular Warfare” – An evolving dialogue...***

---

- US Navy’s Vision for Confronting Irregular Challenges... “dissuade, deter, and when necessary, defeat irregular threats” (January 2010)
- QDR 2010 emphasis on preventing and deterring conflict by working with allies and partners....***Building Partner Capacity*** (February 2010)
- IW: ***Countering Irregular Threats*** JOC 2.0 – “Since the original version of the IW JOC was approved in September 2007, the understanding of IW has continued to evolve (pg 3)...counter irregular threats (pg 5)”....***just released*** (17 May 2010)
- Past Confusion because:
  - **“Warfare” implies only violence**; complicates interaction with DoS/USAID/Allies and Coalition Partners
  - **Reactive** instead of preventive
  - Emphasizes **land centric** perspective vice maritime context
  - **Warfare we “do”** vs “security environment” we are in

***It’s About Confronting Irregular “Challenges”...***

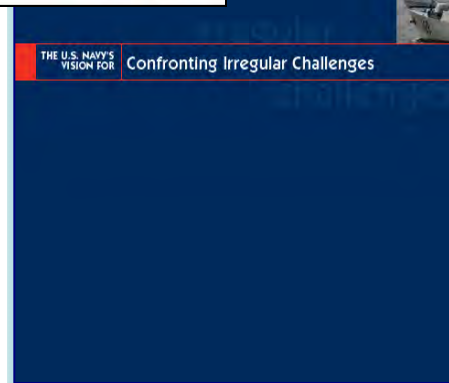
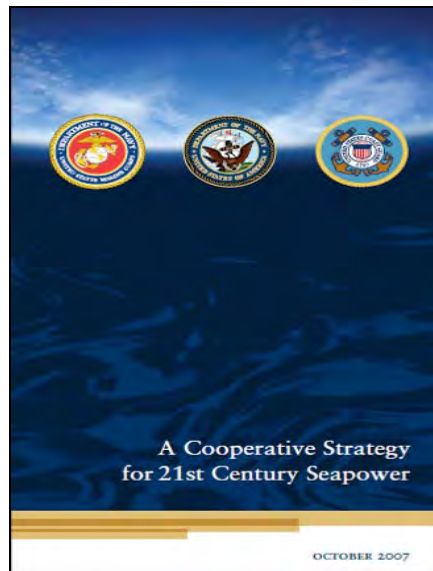


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# U.S. Navy Vision for Confronting Irregular Challenges

## Strategic Imperatives

1. *Limit regional conflict with forward deployed, decisive maritime power*
2. *Deter major power war*
3. *Win our Nation's wars*
4. *Homeland Defense in Depth*
5. *Foster and Sustain Relationships*
6. *Prevent or contain Local Disruptions*



*"The U.S. Navy will **meet irregular challenges** through a flexible, agile and broad array of multi-mission capabilities. We will emphasize **Cooperative Security** as part of a **comprehensive government approach** to mitigate the causes of insecurity and instability. We will operate in and from the maritime domain with **joint and international partners** to enhance regional **security and stability**, and to dissuade, deter, and when necessary, defeat irregular threats."*

***... a derivative of our Maritime Strategy***



# ***“Operationalizing” the Vision...Our Plan***

**Our Mission:** Facilitate innovative strategy, concept, and capability solutions for confronting irregular challenges. Synchronize Navy efforts to enhance a cooperative government approach to prevent and counter irregular threats. Institutionalize the solutions and efforts into Navy policy, processes, plans, and programs.

## **Lines of Operation**

## **13 Sub-Objectives**

## **Objectives**

## **Endstate**

### **REORIENT** Approaches... Doctrinal, Strategic, Operational

- Defense/Joint strategic & operational guidance applied to Navy Doctrine
- Strategic & operational tenets applied across GPF & SOF
- Irregular Challenge priorities and capabilities integrated into Navy's force development and management process

**Doctrinal,  
strategic, and  
operational  
approaches  
codified**

### **REBALANCE** Investments and Efforts

- Urgent and emerging Irregular Challenges requirements addressed in PPBE process
- Advocates and resource sponsors identified
- Training and educational requirements introduced
- Concepts, processes, and organizations for building partner capacity institutionalized

**Organized, trained,  
and equipped to  
Confront Irregular  
Challenges**

### **REFINE** Operations and Partnerships

- Partner capacity built leveraging multi-mission capabilities, other services, interagency, coalitions and public/private
- Integrated and coordinated with USMC and USCG
- Development of Partner Concepts and CONOPs supported
- Joint and interagency planning process supported
- Capabilities addressed & captured in DoD legal policy
- COCOMs provided with partner capabilities outside Joint core

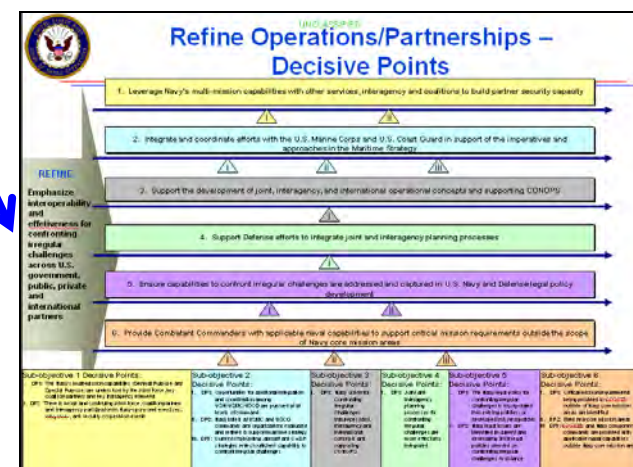
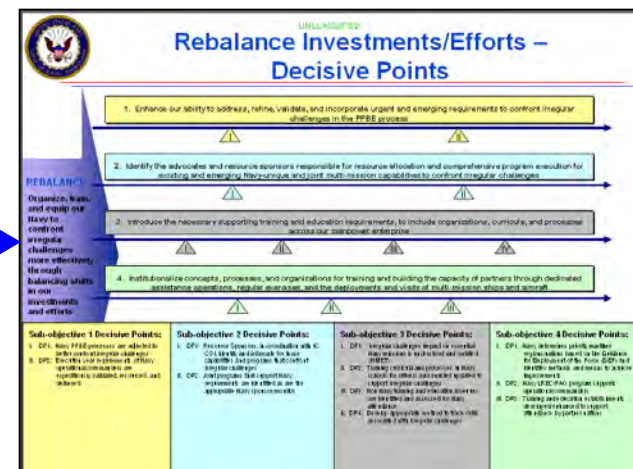
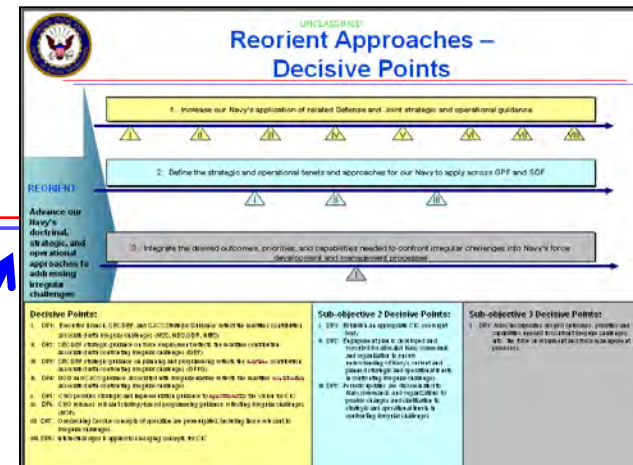
**Interoperable  
and effective  
comprehensive  
operations**

The U.S. Navy is able to meet irregular challenges through a flexible, agile and broad array of multi-mission capabilities. We will emphasize Cooperative Security as part of a comprehensive government approach to mitigate the causes of insecurity and instability. We will operate in and from the maritime domain with joint and international partners to enhance regional security and stability, and to dissuade, deter, and when necessary, defeat irregular threats.



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# Developing the Plan



## Implementing the Vision:

3 Lines of Operation

13 Sub-Objectives

35 Decisive Points

54 Activities with 153 Tasks



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# Monitoring Progress Across/Down Lines of Operation

## REORIENT Approaches... Doctrinal, Strategic, Operational

3 Sub-Objectives  
0 Complete (0%)

12 Decisive Points  
8 In Progress  
0 Complete  
(67%/0%)

23 Activities  
(with 55 tasks)  
12 In Progress  
2 Complete  
(52%/8%)

## REBALANCE Investments and Efforts

4 Sub-Objectives  
0 Complete (0%)

11 Decisive Points  
11 In Progress  
0 Complete  
(100%/0%)

15 Activities  
(with 51 tasks)  
15 In Progress  
0 Complete  
(100%/0%)

## REFINE Operations and Partnerships

6 Sub-Objectives  
0 Complete (0%)

12 Decisive Points  
6 In Progress  
1 Complete  
(50%/8%)

16 Activities  
(with 47 tasks)  
8 In Progress  
2 Complete  
(50%/12%)

13 Sub-Objectives  
0 Complete (0%)

35 Decisive Points  
25 In Progress  
1 Complete (71%/3%)

54 Activities  
(with 153 tasks)  
35 In Progress  
4 Complete (64%/7%)

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# *Investment Areas of Emphasis*

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- Ships and Aircraft
- Persistent ISR
- Unmanned Systems
- Language Skills, Regional Expertise, and Cultural Awareness (LREC)
- Partnerships / Building Partner Capacity
- Cyber Security
- Maritime Domain Awareness
- Fusion Tools
- Interagency knowledge and understanding

***Continuing to Sharpen the Focus***



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# *Irregular Challenges... Bringing Capabilities into Focus*

- Littoral Combat Ship
  - Significant lessons learned from 2-yr. acceleration in deployment
- Fire Scout UAV
- Value of multi-mission platforms
  - USS Vinson, Higgins, Bainbridge
- Africa Partnership Station
  - USS Carter Hall equipment loadout
- Super Ferries support to Haiti
  - Will help drive requirements for JHSV





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## Other Contributions...

- Enhancing Flexibility
  - **USS BAINBRIDGE** – Counter piracy, SOF integration
  - **USNS COMFORT/MERCY** – forging trust
  - **Global Partnership Stations** – building regional security capacity challenges...AFRICA, PACIFIC RIM, CARIBBEAN/LATIN AMERICA
- Investing in Navy Personnel
  - **Navy Language, Regional, and Cultural Experts**
    - Enables facility with languages
    - Expertise in regional affairs
    - Broad awareness of foreign cultures
- Investing in Foreign Partners
  - Building relationships that promote U.S. interests
  - Building allied and partner capacities
  - Promoting peacetime & contingency access for U.S. forces
  - Promoting relevant information sharing



***Leveraging the General Purpose Force to Confront Irregular Challenges***



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# ***DoD Focus: Institutionalizing Capabilities to Confront Irregular Challenges***

- **OSD General Direction....**
  - **Expand Security Force Assistance**
  - **Interest in GPF & SOF integration**
  - **Demand for Unmanned Systems & ISR**
- **FY10/PR11 Navy investments led change... LCS, DDG, MDA, NECC, but... appetite for more!**
- **Opportunity for Navy**
  - **Scope Security Force Assistance**
  - **SOF Support and integration**
  - **Innovative Capabilities for Littorals**
  - **LREC & FAO Programs**
  - **Maritime ISR & Maritime Domain Awareness**

**Sea Based UAS**



**USCG Integration**



**Security Force Assistance**



**Riverine**



**Rotary Wing Support**



**Littoral Capacity**



***Navy On Track...Pursuing Balance through Inherent Strengths***



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# Projects / Studies / TTX

## ■ Tactical PED and Fusion of INTEL

- Providing forward deployed tactical Processing Exploitation and Dissemination (PED) through fusion of various intelligence sources to support the Task Force completing its find, fix, and finish mission

## ■ Unmanned Aerial System (UAS)

- Advocating for the ability to support operators in theater through integrating Intelligence, Surveillance, and Reconnaissance (ISR) onto various maritime based UAS.

## ■ Unmanned Surface Vehicles (USV)

- Field a persistent clandestine collection vehicle that is capable of hosting a variety sensors which support requirements ranging from ISR collection to Maritime Domain Awareness (MDA) initiatives.

## ■ Surface Ship IO Optimization (SSIO)

- Optimizes Ships Signal Exploitation Space (SSES) operations by coordinating additional equipment and signal specific training, Radio Frequency signal path verification, and Task Force indoctrination.

## ■ NWC Underlying Conditions Table Top Exercise

- Examine possible future roles of maritime forces in mitigating and responding to severe security and humanitarian crises in the littorals (27-29 Jul).





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## ***Observations: A Growth Marketplace***

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- Navy relevance is growing exponentially: heavily engaged in fragile maritime neighborhoods
- Maritime networks matter – global implications
- Understanding the “underlying conditions” is critical to future security environments
- Emphasis on multi-mission capabilities & forces
- Sec Gates article...shift in military thinking ...emphasis on preventive security



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# *Looming Questions*

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- Is economic crisis impacting partner navies?
  - UK, France, Japan, Germany, Italy, others
  
- Impact of growing US defense budget pressure?
  - effect on priorities, missions, strategies?
  
- Who becomes Navy's new global partners?
  - Brazil, India...China?
  
- Is Building Partner Capacity/Security an Increasing Priority?
  - How to sustain for the long term?



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## *Wrap Up*

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- Navy is leading change
  - Momentum is building
- Vision firmly rooted in CS-21, NOC, QDR and NSS
  - “in sync” with rest of government
- We must have a Wider Strategic Lens
- “Operationalizing” the IC Vision, rebalancing investments, committed leadership

***“It’s time for creative thinking and new processes...it is time to act” CNO Roughead***



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# Questions



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## ***NWC-NIWO Table Top Game 27-29 July***

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- Purpose: To examine possible future roles of maritime forces in mitigating and responding to severe security and humanitarian crises in the littorals.
  - Inform senior leadership of DOTMLPF implications for Navy programs and force structure
  - Establish context for future MDA, Global and ISS events at NWC
- Scenario and structure:
  - Two scenarios based on Dr. Mike Vlahos “Ashen Truth” presentation
    - West Africa 2017
    - South Asia 2030
  - Two Blue Cells with Navy planners, each led by a FO
    - One team focused on Navy/Marine Corps ops
    - One team focused on Comprehensive Government / Coalition ops
  - White cell with functional SMEs
  - Green cell with regional SMEs



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# Context



Sched: 19-23 Jul 10  
- 12 Countries  
- Policy/Legal/ Info  
Sharing Issues on  
MDA

**MDA  
Operational  
Game**

**Irregular  
Challenges  
Game**

Sched: 27-30 Jul 10  
- Joint/Civilian/IA  
- US Only  
- Maritime Challenges/  
Underlying Conditions



**Global Maritime  
Partnership Game**

Sched: 4-8 Oct 10  
- 70+ Countries  
- Global Game on  
Building Partnerships  
in Multiple Regions

**MDA  
Technical  
Game**

Proposed: Spring 11  
- Multiple Countries  
- Technological  
Game on MDA

**Global  
Challenges  
Game**

Proposed: Spring 11  
- International Game  
- Partner Capability  
and Capacity on  
Maritime Challenges

**International  
Seapower Symposium**

Sched: Oct 11  
- 100+ Countries  
- Two Panels to Brief on Results of  
MDA and Global Challenges Games



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# Back-ups



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# *Implementing the Vision*

## Lines of Effort

## Lines of Pursuit

**Implementing  
the CIC Vision**

Near-term Outcome

**Implementation  
Roadmap**

**Strategic Communication**

**Flag Level Leadership/Ownership**

**DOTMLPF Enhancements**

**Integrate CIC w/USMC & USCG**

**Coordinate w/Joint/IA/Int'l Partners**

## Implementation Roadmap Approach:

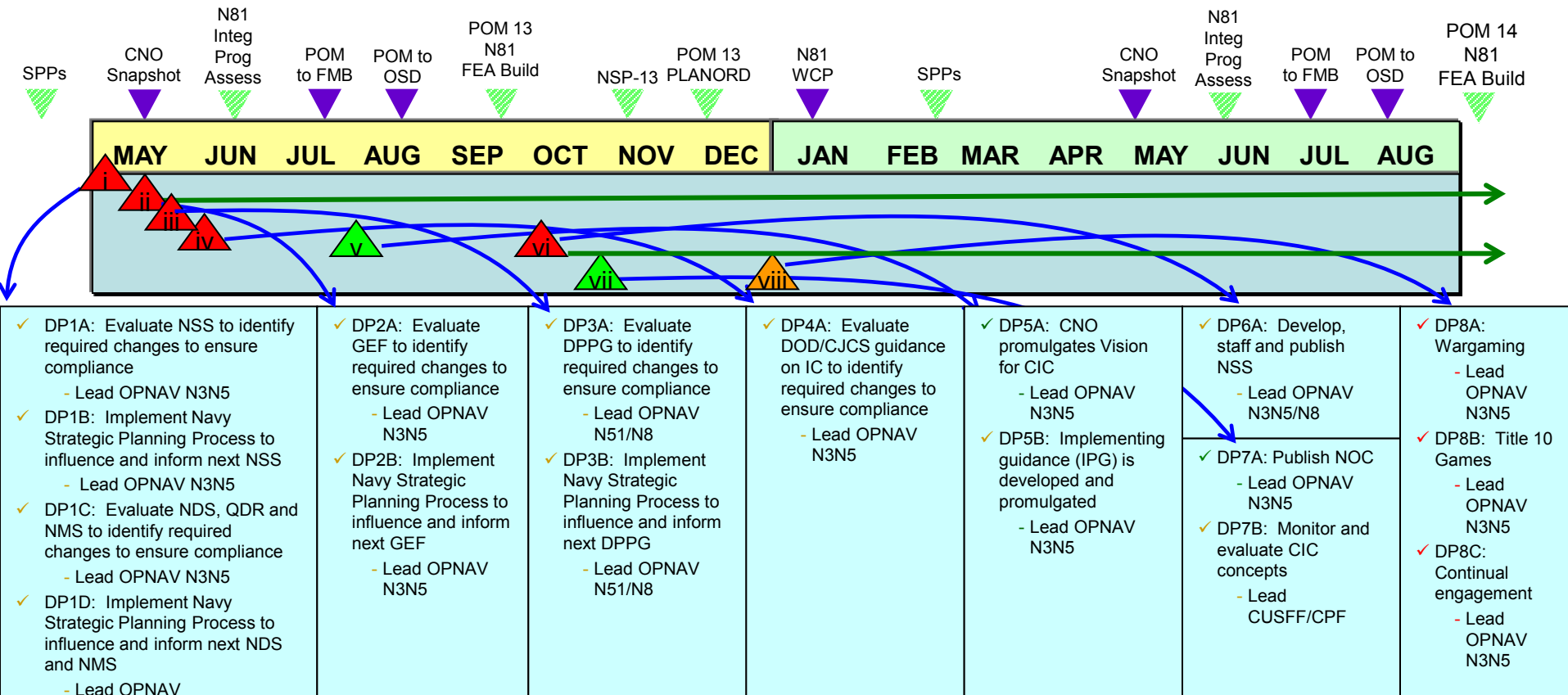
- Align efforts to Vision Implementing Objectives
- Conduct Navy-wide call for current efforts & planned initiatives
- Assess efforts against Vision outcomes and effects, identify important gaps
- Develop new implementation tasking, assign responsibility
- Capture relevant efforts, initiatives and new tasking into roadmap



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★ Increase our Navy's application of related Defense and Joint strategic and operational guidance

## Detailed Activities



### Decisive Points:

- DP1:** Executive Branch, SECDEF, and CJCS Strategic Guidance reflect the maritime contribution associated with irregular challenges (NSS, NDS, QDR, NMS)
- DP2:** SECDEF strategic guidance on force employment reflects the maritime contribution associated with confronting irregular challenges (GEF)
- DP3:** SECDEF strategic guidance on planning and programming reflects the maritime contribution associated with confronting irregular challenges (DPPG)
- DP4:** DOD and CJCS guidance associated with irregular warfare reflects the maritime contribution associated with confronting irregular challenges
- DP5:** CNO provides strategic and implementation guidance to operationalize the Vision for CIC
- DP6:** CNO releases relevant strategy-based programming guidance reflecting irregular challenges (NSP)
- DP7:** Overarching Service concepts of operation are promulgated, including those relevant to irregular challenges
- DP8:** Intellectual rigor is applied to emerging concepts for CIC

- ✓ **Complete**
- ✓ **In Progress**
- ✓ **Not Started**



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# *Efforts in Progress*

## *Doctrine*

### *OPNAV*

Seabasing CBA  
MARSEC study  
MPS Study  
Strat/Policy Inputs (Vision, NOC, NSS, NSP)  
CNA GPF-SOF Study  
Navy Campaign Support Plans  
Country Action Plans  
Regional Action Plans  
Naval At Sea Policy  
Maritime Nation Bidding Matrix  
Global TSCMIS  
BPC Campaign Plan  
IC Gap Analysis  
Re-establishing SSTRO Model  
Rotary Wing Support Study  
SFA/CAPE Study  
Strategic Communications Study

### *CFFC*

IC Instruction  
P4 Implementation Message

### *Fleets*

CNA GPF-SOF Study  
SAVE Instruction Update/Release  
NATO Cooperation in MDA  
Counter Piracy Doctrine

### *NWC/NWDC/CNA*

Naval War College CIC Table Top  
CIC Operational Concept  
Commander's Handbook for CIC  
CIC Scenario Based Exercise  
SAC-T/USN Talks  
CIWAG Conference  
Global Partnership Game  
MDA Games  
International Symposium



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# Efforts in Progress

## Organization

### OPNAV

Liaison with WARCOM

LCS IC Working Group

LCS CND and LEDET Deployment Capability

POM12/POM13 coordination to represent IC requirements

### CFFC

NIWO/JIWC Coordination

### Fleets

Task Force C2 Node

TSC/SFA Monthly Synchronization Meeting

MOC Development

CT Fusion Cell

NECC integration with NSW Unit 3

CTF 150/151/152

Regional Engagement Teams

Africa Partnership Initiative

Maritime Partnership Program

### NCIS/NECC/NSW

CT and CI capability

Counter Piracy

Vulnerability Assessments

Pre-deployment site surveys

Global Fleet Station

Reinvigorating N5

## Training

### OPNAV

Post Deployment IC Briefs on returning SSNs

LCS SFA Training Module

USN/USCG Warfighter Talks

USN/USMC Warfighter Talks

### Fleets

AGILE QUEST

MESF for Host Nation Training

### SUBLANT

Formalized Long Haul Deployment Training

TRIDENT REACH/OCEAN LOOK

TURBULENT SAIL



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# Efforts in Progress

## Material

### OPNAV

NIFT/SHARC/SURFR/RTRG/SSIO  
LCS HA/HS, Trauma and Medical Modules  
LCS IC Working Group  
SSGN Battle Management Space  
  
Front End Analysis  
Seabasing CBA  
MARSEC Study  
MPS Study  
IC Gap Analysis  
Rotary Wing Support Study  
SFA/CAPE Study  
  
CNA IC capabilities study to assign to POR

### Fleets

AGILE QUEST  
TRIDNET REACH/OCEAN LOOK  
TURBULENT SAIL

### SUBLANT

SOF Specific LANs  
TRIDENT REACH/OCEAN LOOK  
TURBULENT SAIL

## Leadership

### OPNAV

LREC Strategy promulgated  
Heritage Language Improvement Program  
COIN Pre-deployment Training Initiative

## Personnel

### OPNAV

Language Proficiency Incentive Program  
FAO billet scrub  
Joint Skills FAO Sustainment Program  
LREC Strategy promulgated  
Heritage Language Improvement Program  
Career Linguist Instruction

### NCIS/NECC/NSW

NCIS FAO program  
NECC AQD development  
SOLO



ASD NII / DOD CIO | USD(I) RFO | USA TRADOC

---

# Multi Agency Collaboration Environment

August 2010

- Emerged from JIEDDOs Counter IED Operations Integration Center Net Centric Initiatives
  - Deployed the first interoperable, data sharing federation in the DoD, facilitating data discovery, across Service and Agency boundaries to defeat the IED threat
- A need emerged to enable the broader DOD and Federal Community to achieve the same interoperability and net centric success



# Introduction – What we need

***We need the right information to do our jobs...***



***...but we do not have a way to easily share and discover information across Service and Agency boundaries; this prevents us from becoming predictive!***

# The Problem

*Information is stored...*

*Here*



*Here*



*Here*



*Here*



*Here*



*Here*



*Here*



# The Problem

*And not available to...*



# Effect

*...Preventing you from “Connecting the Dots”...*



# MACE – Transformational Catalyst

**MACE**  
MULTI AGENCY  
COLLABORATION  
ENVIRONMENT

## *To address this critical problem ASD NII established the MACE*

- **Mission**
  - Protect the Nation by leveraging the power of information to achieve cross Agency interoperability, collaboration and shared awareness
- **Goals**
  - Achieve greater levels of situational awareness and enable more accurate and timely decision making across the DoD and Federal Agencies
  - Accelerate the interoperability, policy and security advancements needed to meet the future security and integration challenges that the US will encounter in the coming years

### MULTI-AGENCY COLLABORATION ENVIRONMENT (MACE) DESIGNATION

The Multi-Agency Collaboration Environment (MACE) effort has been initiated by the Assistant Secretary of Defense (Networks and Information Integration)/Department of Defense Chief Information Officer (ASD(NII)/DoD CIO), with the assistance of the OSD Special Capabilities Office (SCO), as a capability to enable organizations to adapt their technology, data, and processes to meet their current mission challenges. The MACE provides a rapid application development "proving ground" staffed by experienced personnel who use proven processes to design, engineer, test and certify solutions that are compliant with Federal and DoD information enterprise architecture policy and guidance.

An objective of the MACE pilot is to implement a data sharing and collaboration framework that serves the DoD and other Federal Agencies. To that end, participating organizations will make available their government-developed, certified and accredited tools and applications to the MACE, and the MACE will, as requested, tailor and modify those tools and applications to support specific customer needs. The MACE will be reimbursed by participating customers as part of their planned execution for the program(s) of record. Individual efforts will be executed under approved and agreed upon signed Memorandum(s) of Agreement (MOA) between the MACE and the sponsoring government agencies. Each contractual engagement between the MACE and its sponsoring agencies will remain "separate and severable". Formal cost, schedule, and performance reviews will be conducted on a bi-annual basis by the undersigned.

Oversight for all MACE activities will be provided by the Director, Enterprise Services and Integration, OASD(NII)/DoD CIO. The OSD Special Capabilities Office (SCO) will support financial tracking and oversight for all funding actions and monitor progress of execution.

 3/10/10  
Ms. Cheryl Roby Date  
PD ASD/NII  
DoD Chief Information Officer

 3 MAR 2010  
Mr. Brian Hübner Date  
OSD SCO

# Breaking Down the Barriers

*...So that information can be shared and updated by...*

**Agents**



**Operators**



**Analysts**



*...from across the DoD and Homeland Defense Stakeholder Community*

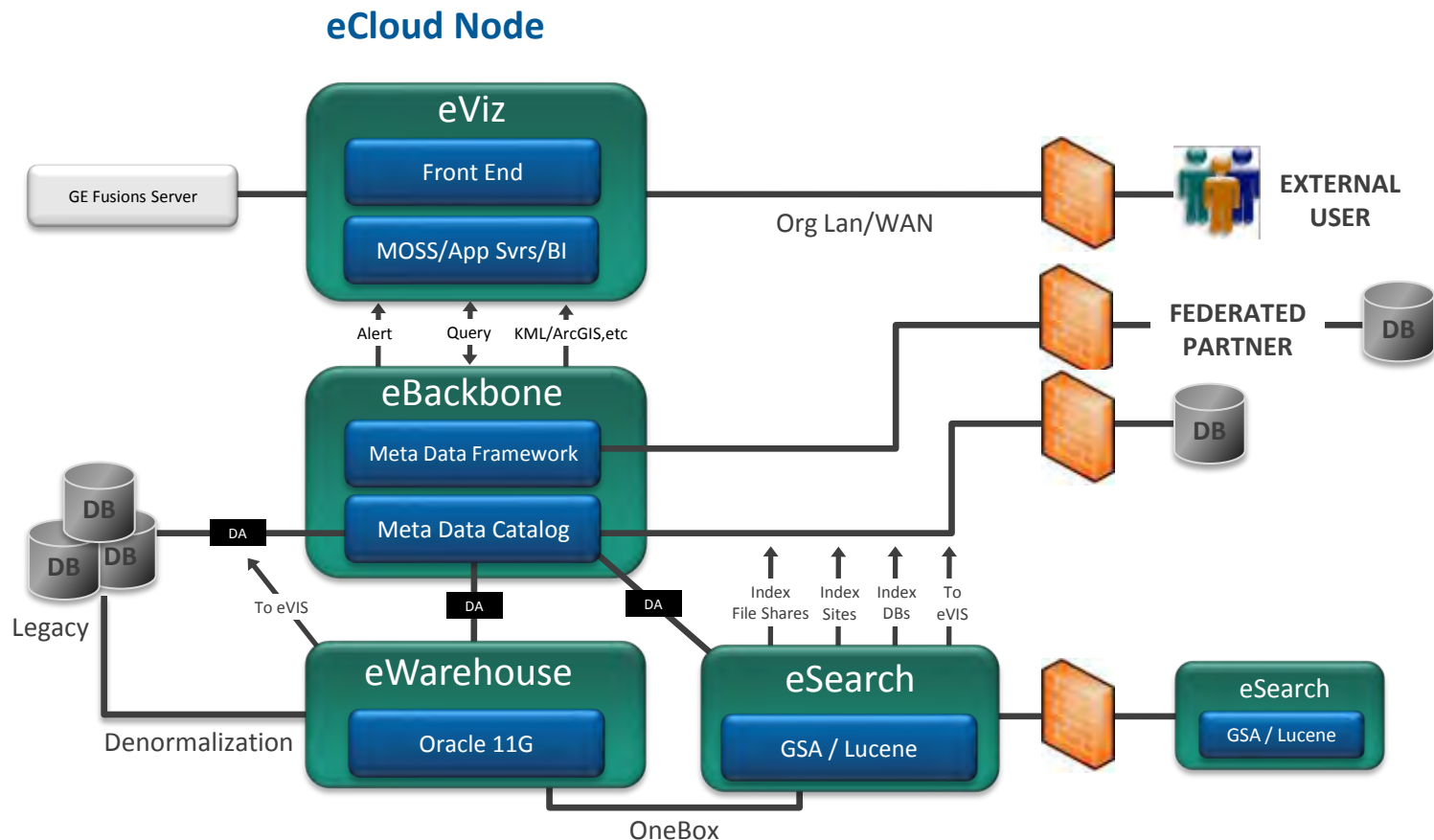
*e CLOUD*

*Shared Applications / Shared Data*

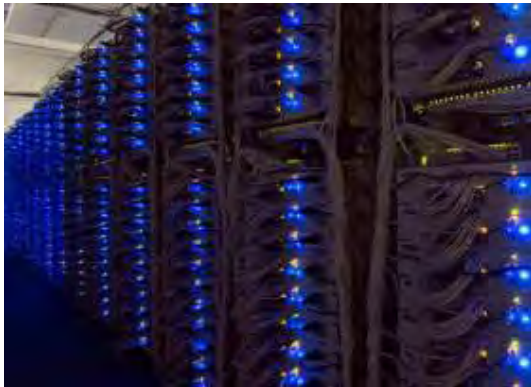
*Security / Authorization / Authentication*

# eCLOUD | Knowledge Enterprise

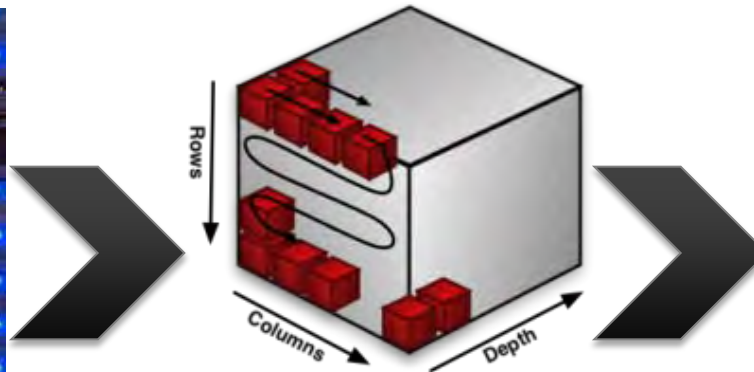
***Transforming stove-piped data and application services into a shared knowledge enterprise based on blended DOD, DHS and DOJ data standards...***



*Any data set can be integrated...*



**Peta-Byte Class Data Centers**



**Data Warehousing  
Business Intelligence 2.0**



**Analytics**

*...and access controlled to specific users, organizations or communities of interest....*

# MACE

## Integrating Partners

**MACE**  
MULTI AGENCY  
COLLABORATION  
ENVIRONMENT



DHS Operations



DHS Critical Infrastructure  
Protection (CIP)



Customs and Border  
Protection (CBP)



Alcohol, Tobacco, and  
Firearms



Joint Interagency Task Force  
– South



ASD NII / DOD CIO



DCGS Management Office  
(DMO)



United States Air Force (ESC)



DIA



USSOCOM



US NAVY



US ARMY

### *Emerging Partners*

NORTHCOM / CENTCOM / NGA / EPIC / CN COI / White House / NMCC

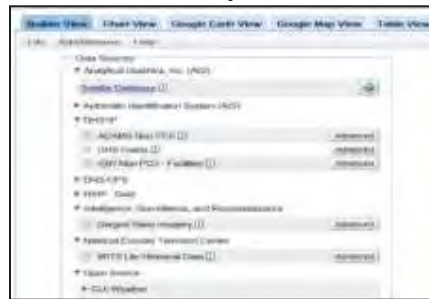
# eCLOUD | Knowledge Enterprise Cloud

**MACE**  
MULTI AGENCY  
COLLABORATION  
ENVIRONMENT

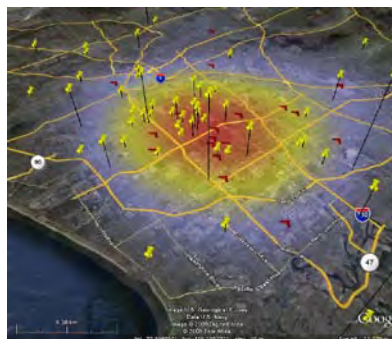


**Knowledge Driven Operations**

**Query: Type, Time, Spatial,  
Complex**



**Predictive Enterprise Analytics**



**Customize Your User Experience:  
Gadget Based Browsers**



**User Customized  
Automated Metrics Reporting**



**Workflow Automation**



**Automatic Enterprise Entity  
Extraction and Association**



# National Defense Authorization Act 2011

## *Multi-Agency Collaboration Environment*

The committee is aware that the office of the Assistant Secretary of Defense for Networks and Information Integration sponsored a program intended to break down interagency information stovepipes and promote greater information sharing among the Department of Defense and its partners. The Multi-Agency Collaboration Environment (MACE) is an innovative effort to address many of the information sharing problems identified by the 9/11 Commission which continue to plague the U.S. Government. MACE provides a unique proving ground for federated information sharing architectures and techniques. Equally important, the contracting paradigm for MACE is a radical departure for the Department, and offers a potential future standard that leverages Darwinian principles in support of information systems program management. The committee plans to closely monitor the progress of MACE, and encourages the Department to make greater use of this capability.

***Information is the critical enabler in today's fight***

10

Union Calendar No. 279

111TH CONGRESS  
2D SESSION**H. R. 5136**

[Report No. 111-401]

To authorize appropriations for fiscal year 2011 for military activities of the Department of Defense, to prescribe military personnel strengths for such fiscal year, and for other purposes.

## IN THE HOUSE OF REPRESENTATIVES

APRIL 26, 2010

Mr. MCCOY (for himself and Mr. McKEON) (both by request) introduced the following bill; which was referred to the Committee on Armed Services

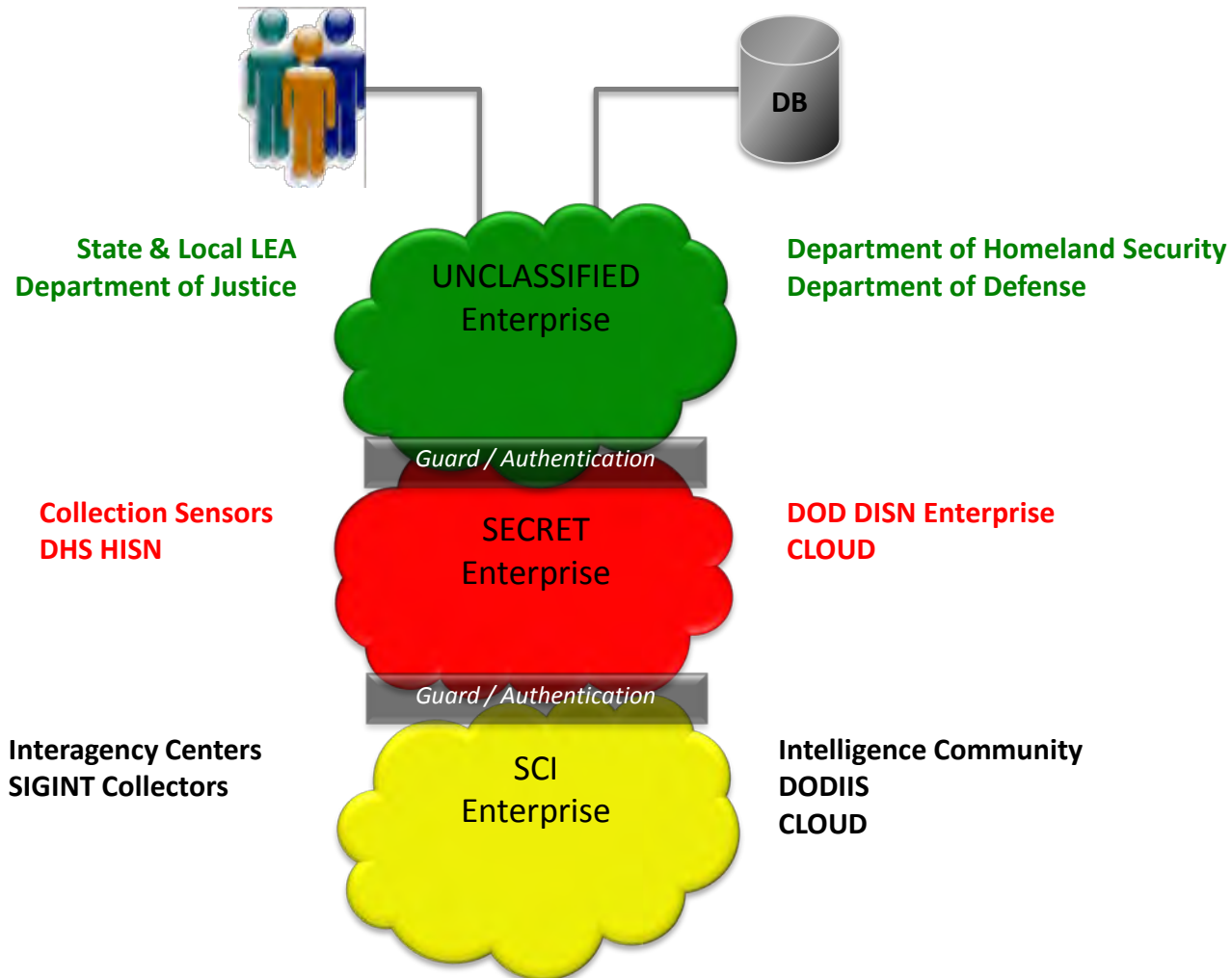
MAY 21, 2010

Reported with amendments, committed to the Committee of the Whole House on the State of the Union, and ordered to be printed

(Shall be sent out after the reading clause and insert the part printed in italics)

(For text of introduced bill, see copy of bill as introduced on April 26, 2010)

*...On multiple security domains to expand enterprise federations*



# MACE Enables

**MACE**  
MULTI AGENCY  
COLLABORATION  
ENVIRONMENT

*...transforming information into action*



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# **Multi-Agency Collaboration Environment**

## **MACE**

**DCGS Integration Backbone (DIB)**

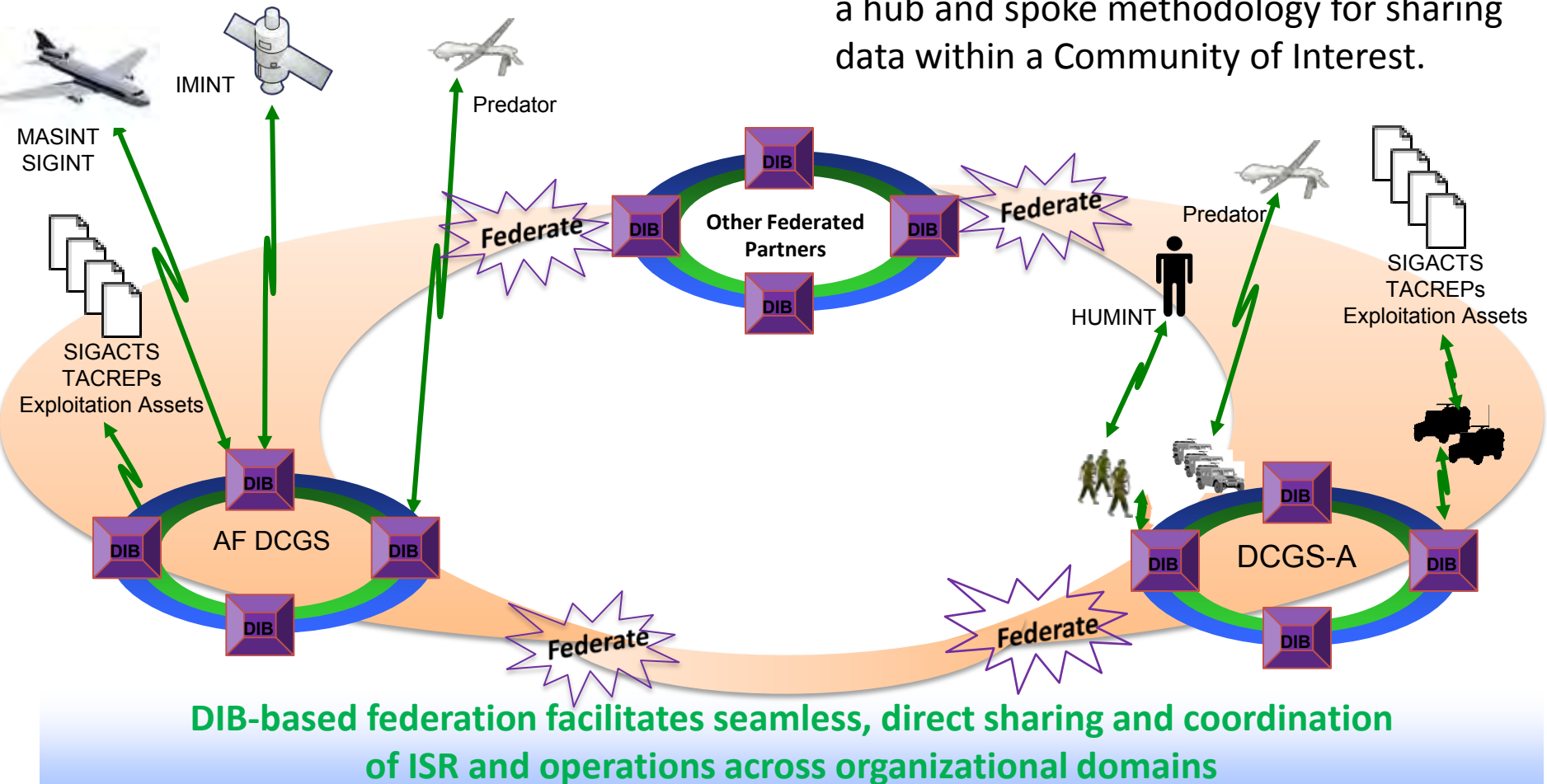
# MACE Provides the DCGS Integration Backbone for the DMO and the Services

## THE PROBLEM

Accessing and using data from disparate data sources wastes a significant amount of time that could be spent on analysis and fusion.

## THE SOLUTION

The DIB provides a common interface that exposes data and allows analysts to retrieve information with a single query. The DIB uses a hub and spoke methodology for sharing data within a Community of Interest.



# DIB Development Overview

	DIB v1.2	DIB v1.3	DIB v1.3.1	DIB v2.0	DIB 3.0
Date Released by MET CCB (DMO shipped)	Dec 07	Apr 09	Sep 09	Oct 10	May 11 (Projected)
Developed by	Raytheon	Raytheon	MACE	MACE	MACE
Industry Partners	1 (full time): Raytheon 2 (interim): Lockheed Martin, Oracle	1 (full time): Raytheon 2 (interim): Lockheed Martin, Oracle	4 (full time): Lockheed Martin, Oracle, SNC, MTCSC	5 (full time): Lockheed Martin, Oracle, IBM, SNC, MTCSC	4 (full time): Lockheed Martin, SNC, MTCSC, NG (adding)
Government Insight into Development	Limited	Limited	High	High	High
PoR Requirements Change Flexibility	Low	Low	High	High	High

Legacy Contractor Effort

MACE Selection

Proposed 13.6 M for 2.0

MACE Accomplished 2.0 delivery at 5 M

MACE Effort

# DIB Key Feature Summary

Feature	V1.2	V1.3	V1.3.1	V2.0
Catalog Record Storage Format	DCGS Internal	DoD Standard	DoD Standard	DoD Standard
Multi-Catalog Search	Manual	Auto	Auto	Auto
System Integrator Documentation	Minimal	Extensive	Extensive	Extensive
Catalog Query & Result Formats	2	5	5	8
Customizable Catalog	No	Yes	Yes	Yes
Catalog Performance Characterization	No	No	Yes	Yes
Support for non-Western Characters	No	No	Yes	Yes
Support for Schema Versioning	No	No	No	Yes
Case Sensitive Query Capability	No	No	No	Yes
Security Requirements	PL2	PL2	PL2	PL3*
Programming Software	Java 1.4	Java 1.5	Java 1.5	Java 1.6
Integration Platform	WebLogic 8.1	WebLogic 10.2 JBoss 4.2.2	WebLogic 10.2 JBoss 4.2.2	WebLogic 10.3 JBoss 5.1
Operating Systems	Solaris 10 RH Linux 4.5 Windows 2003 32 bit	Solaris 10 RH Linux 4.5 Windows 2003 32 bit	Solaris 10 RH Linux 4.5 Windows 2003 32 bit	Solaris 10 RH Linux 5.4 Windows 2008 64 bit
Database	Oracle 10G	Oracle 10G	Oracle 10G	Oracle 11G

\*DIB v2.0 will include PL3 functionality; product type certification documentation and effort planned for DIB v2.1

*Victor S. Gavin*  
*Executive Director*



## PEO LITTORAL AND MINE WARFARE

Mr. Gavin is currently Executive Director for the Program Executive Officer for Littoral and Mine Warfare (PEO) (LMW), and was appointed to the Senior Executive Service on February 2007. PEO LMW executes the Navy's acquisition programs for Mine Warfare, Unmanned Maritime Vehicles, Explosive Ordnance Disposal, Antiterrorism Afloat, Naval Special Warfare, Maritime Surveillance Systems, and the Mission Modules for the Littoral Combat Ship.

Mr. Gavin's previous position was as Technical Director, PEO Submarines. He was responsible for all Submarine Combat Systems acquisition and PEO directed Research and Development. This includes modernization of all in-service submarines (5 classes) and new construction (VIRGINIA Class) submarines under the Submarine Warfare Federated Tactical System (SWFTS) family of systems. In addition, Mr. Gavin coordinates the integrated budget development for all Team Submarine programs.

Mr. Gavin attended North Carolina Agricultural and Technology State University and graduated with a bachelor's of science degree in electrical engineering in 1985. He also obtained a master's of science degree in systems engineering from Virginia Polytechnic Institute in 1996.

Mr. Gavin's civilian service began in a cooperative education program between the Naval Underwater System Center and North Carolina A&T State University. After graduation he returned to NUSC to serve as systems engineer for submarine combat systems. Here he became a key participant in the development of the AN/BSY-1 Combat System, which was the primary combat system for second flight fast attack submarines.

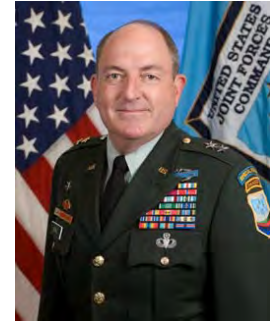
From 1988 to 1996, Mr. Gavin served as the on-site government representative at Lockheed Martin in Manassas Virginia. As the leader of this multidiscipline organization, he provided the technical oversight necessary to deliver the combat system to twenty-three submarines.

Mr. Gavin joined Naval Sea Systems Command headquarters in 1996 as the Chief Engineer for the Submarine Acoustics Programs. He led the Navy's efforts to migrate sonar systems development from a Military Specification environment to a Commercial Off the Shelf (COTS) environment as part of the Acoustic Rapid COTS Insertion Program (ARCI). In 2000, Mr. Gavin was selected as Assistant Program Manager for Submarine Acoustics where he established the business processes for acquiring COTS based systems.

In 2002, Mr. Gavin was assigned the Assistant Program Manager for Combat Systems development. He planned and managed the development of combat systems for every US submarine variant as well as for (6) Collins Class submarines of the Royal Australian Navy. He later became the first civilian Program Manager of the Combat System Program office.

Mr. Gavin awards include Navy Meritorious Civil Service Award, Navy Superior Civilian Service Award, and the Vice President Gore Hammer Award for Acquisition Streamlining.

*Major General David A. Morris*  
*United States Army*  
*Joint Irregular Warfare Center/Joint Reserve Directorate*  
**UNITED STATES JOINT FORCES COMMAND**



***Last updated: May 21, 2007 . Army Maj. Gen. David A. Morris serves as the director of the Joint Irregular Warfare Center (JIWC) and the Joint Reserve Directorate (JRD) at U.S. Joint Forces Command (USJFCOM).***

As the JIWC director, he is also responsible for the execution of USJFCOM's mission as the Department of Defense executive agent for joint urban operations. He and the JIWC team lead, coordinate and integrate efforts across USJFCOM, the Department of Defense, and other partners to ensure the abilities to conduct irregular warfare and urban operations are core competencies of the joint force.

As the JRD director, he oversees the training and management of over 1100 assigned reservists across the five uniformed services and serves as the senior advisor to the commander of USJFCOM on all reserve matters.

After graduating from the U.S. Military Academy at West Point, N.Y., in 1975, he served on active duty as an infantry and special forces officer until 1984. His career spans a variety of active duty and reserve positions, with combat experience in El Salvador and Iraq, where he commanded the Combined Joint Special Operations Task Force-Arabian Peninsula. He served as commanding general, U.S. Army Civil Affairs and Psychological Operations Command (Airborne), Fort Bragg, N.C. from June 2007-September 2009.

He has served as a civilian and a reserve officer at USJFCOM, most recently as the deputy director of the Joint Capability Development Directorate (J8). As a member of the Senior Intelligence Executive Service, he was the director of intelligence policy at USJFCOM and commanded the joint reserve unit of Special Operations Command-Joint Forces Command from 2003 to 2005.

Morris attended several military training schools and holds a bachelor's degree from the U.S. Military Academy and a master's of public administration degree from Golden Gate University. He has attended both the U.S. Army Command and General Staff College and the U.S. Army War College.

His decorations include the Defense Superior Service Medal, the Legion of Merit, the Bronze Star Medal, the Defense Meritorious Service Medal, the Joint Service Commendation Medal, the Army Commendation Medal and the Army Achievement Medal.

He has earned the Combat Infantryman with Star and Master Parachutist identification badges, the Colombian Ranger Badge (Lancero), and parachutist badges from nine different countries. He is Special Forces and Ranger qualified.

*Chad Pittman*  
*Executive Vice President*

## **INDIANA ECONOMIC DEVELOPMENT CORPORATION**

Chad Pittman is executive vice-president for the Indiana Economic Development Corporation (IEDC) where he serves alongside Secretary of Commerce and IEDC chief executive officer, E. Mitchell Roob, Jr.

Prior to joining the IEDC, Pittman completed his second tour of duty in Iraq during which he served as an infantry company commander earning a bronze star. Before his deployment, Pittman served a more than three-year stint as a corporate land developer with an Indianapolis-based homebuilding company. There he held roles including corporate director of new markets and land development from 2005 to 2007 and director of government affairs from 2004 and 2005. Previously, Pittman was an attorney with Bose, McKinney and Evans LLP, treasurer and vice president of finance of Indianapolis-based DynoMed, and co-founded a homebuilding company in Carmel.

Pittman is a 2002 graduate of the Indiana University School of Law in Indianapolis and holds a Bachelor of Science in Business from Indiana University. The Zionsville resident is a graduate of the Indiana Economic Development Course at Ball State University and served as a board member of the Boone County Economic Development Corporation from 2004 to 2007.

Chad and his wife, Cristi, reside in Zionsville with their four children, Frannie (7), Maggie (5), Jack (2), and Luci (4 months).

*Omer C. Tooley Jr.*  
*Brigadier General*  
*Assistant Adjutant General*  
*Army, Indiana Joint Forces Headquarters*  
**INDIANA ARMY NATIONAL GUARD**

Civilian Occupation: Director of Joint Operations, Military Department of Indiana, State of Indiana, Indianapolis, Indiana 46241

Military Schools Attended

Infantry Officer Basic Course

Airborne Course, Air Assault Course, Pathfinder Course, Infantry Officer Advance Course, Ranger Course, Jumpmaster Course  
United States Air Force Air Ground Operations School Battle Staff Course, United States Air Forces Europe Air Ground Operations  
School, NATO Air Ground Operations School, Army Command and General Staff Course, Army War College

Civilian Education

Western Kentucky University – BS Degree – Social Studies

University of Southern California - MS Degree – Adult and Continuing Education

Awards and Decorations

Legion of Merit with 2 Bronze Oak Leaf Clusters

Meritorious Service Medal with 1 Silver Oak Leaf Cluster

Army Commendation Medal with 1 Silver Oak Leaf Cluster and 3 Bronze Oak Leaf Clusters

Air Force Commendation Medal

Army Achievement Medal

National Defense Service Medal with 2 Bronze Service Stars

Armed Forces Expeditionary Medal

Humanitarian Service Medal

Army Service Ribbon

Overseas Service Ribbon

Indiana Distinguished Service Medal with 1 Bronze Oak Leaf Cluster

Indiana Recruiting Ribbon

Indiana Military Volunteer Ribbon

Expert Infantryman's Badge

Air Assault Badge

Senior Parachutist Badge

Pathfinder Badge

Ranger Tab

The Adjutant General Staff Badge

*Rear Admiral Daniel B. Abel, USCG*  
*Deputy Director for Operations*

**UNITED STATES NORTHERN COMMAND**

Rear Admiral Dan Abel is the Deputy Director of Operations for Headquarters United States Northern Command. The Directorate of Operations is the principal advisor to the Commander USNORTHCOM on all operational matters, providing strategic guidance to plan and execute NORTHCOM missions within the area of responsibility; including land, maritime, and Homeland Defense air operations as well as Defense Support of Civil Authorities.

Rear Admiral Abel was previously assigned as Commanding Officer of Coast Guard Air Station Cape Cod. Air Station Cape Cod provides all aviation support to the Coast Guard First District whose area of responsibility extends across eight Northeastern states and along 2,000 miles of coastline from the U.S.-Canadian border to northern New Jersey. RDML Abel has been qualified in both the H65 helicopter and the HU25 jet.

**EDUCATION:**

Rear Admiral Abel is a 1983 graduate of the United States Coast Guard Academy where he received a Bachelor of Science degree in Civil Engineering. He also served as valedictorian of the College of William and Mary's MBA class of 1994. More recently in 2005, he was a distinguished graduate of the Industrial College of the Armed Forces (ICAF) earning a Master's of Science Degree in National Resource Strategy. While at ICAF, he completed the DoD Senior Acquisition Corps syllabus, and subsequently earned his Department of Homeland Security Level II Acquisition Program Manager Designation.

**ASSIGNMENTS:**

Rear Admiral Abel's operational tours include Commanding Officer of Air Station San Francisco, Operations Officer for Air Station Houston, Aviation Training Center standardization/ instructor pilot for the H65 Dolphin helicopter and his initial aviation tour as search and rescue/law enforcement helicopter pilot in Miami. Prior staff tours include Project Manager of "Rescue 21" replacing the Coast Guard's outdated distress notification and command, control and communications system along the nation's 95,000 miles of coastline; the Coast Guard's Chief of Aviation Safety; and Program Reviewer crafting and defending the service's budget.

**MAJOR AWARDS AND DECORATIONS:**

Rear Admiral Abel's personal awards include the Legion of Merit, two Meritorious Service Medals, two Coast Guard Commendation Medals and a Coast Guard Achievement Medal. He is an Eagle Scout.

*James W. McMains*  
*Director*

## COMBATING TERRORISM AND NAVAL ENTERPRISE INTEGRATION DIVISION

Mr. Jim McMains currently serves as Director, Combating Terrorism and Naval Enterprise Integration Division for the Office of Naval Research, Code 303. He is responsible for leading, managing, and directing extensive activities in Science and Technology programs which integrate all departmental efforts in the areas of Combating Terrorism, to include Asymmetric and Irregular Warfare, Distributed Operations, and Operational Adaptation . He additionally coordinates and integrates all Science and Technology efforts for the Naval Expeditionary Combat and Naval Special Warfare Enterprises.

Mr. McMains' previous assignments include:

Director of the Marine Corps Warfighting Laboratory's Advanced Technology Development Division

Advanced Technology Advisor, Marine Corps Warfighting Laboratory

Program Manager, Littoral Combat Future Naval Capability, Office of Naval Research

USMC coordinator and integrator for all Future Naval Capability programs, Office of Naval Research

Program Manager for the Dragon Eye Unmanned Aerial System

Prior to his service in the Science and Technology community, Mr. McMains was a Marine Corps officer and Naval Aviator for over twenty-three years, where he served at all operational levels, and accumulated over 4000 hours of flight time in multiple aircraft (primarily rotary wing).

*Gregory F. Knapp*  
*Senior Executive Service*  
*Executive Director*



## **JOINT TRAINING DIRECTORATE, US JOINT FORCES COMMAND**

Mr. Gregory F. Knapp is the Executive Director of the U.S. Joint Forces Command, Joint Warfighting Center, and Joint Training Directorate (J7), Suffolk, Virginia. His responsibilities include strategic management, programming, technical planning and management, program oversight, business and financial management, technical innovation and business process improvement for the various JWFC programs, including the Joint National Training Capability (JNTC), the Joint Knowledge Development and Distribution Capability/Joint Knowledge Online, Information Operations (IO) Range and Virtual Integrated Support for the IO Environment program. He also leads the development of modeling and simulation, instrumentation, opposition force and other training systems to support joint warfighter training worldwide.

Mr. Knapp has over 27 years of Civil Service experience. He established the first automated test programs for submarine combat systems, invented and developed numerous submarine combat systems trainers, led the development of over 2 million lines of software, and was the nation's lead for Submarine Combat Systems In-Service Engineering Support. He performed roles as NAVSEA Test Director for Combat System Acceptance Testing, Supervisor, Division Head, BRAC Transition Manager, and in a variety of acquisition and source selection roles.

Mr. Knapp was principal engineer in establishing the Joint Warfighting Center as the first major Joint National Simulation Center and led the development Information Technology Systems and the integration of the Modeling and Simulation capabilities into the operational C4ISR systems. He also pioneered distributed training for NATO and Partnership for Peace nations in support of building partner capacity. More recently, Mr. Knapp created and established the JNTC and the DoD acclaimed Training Transformation business model which has been extended to include over \$800M of Joint Training Enterprise resources.

Mr. Knapp holds Bachelor and Masters Degrees in engineering from Old Dominion University where he performed research in the area of high energy physics. He has been awarded a patent, numerous value engineering awards, and the Joint Meritorious Civilian Service Award for his demonstration of exceptional leadership, program management and organizational skills. Mr. Knapp has also published dozens of articles and provided hundreds of presentations to industry, academia and government audiences worldwide.

*James Q. Roberts*  
*Principal Director*

## **SPECIAL OPERATIONS AND COMBATING TERRORISM**

Mr. Roberts was born in Fresno, California. While growing up he traveled extensively in the U.S. and overseas. He lived in Iran as a child, attended high school at the Lycée Jaccard in Lausanne, Switzerland and graduated with a B.A. from the University of South Carolina in 1968.

In July of 1968 he began his government career as an US Army Private. He was commissioned in 1969, and served 24 years on active duty as a Military Intelligence Officer, in intelligence, light infantry, special operations, and foreign area officer positions.

Key overseas tours included Vietnam and Cambodia as an intelligence officer, Paris, France as a graduate student, and Iran as a Foreign Area Officer. In the US he served at Fort Bragg (three tours), West Point, Fort Ord, the Pentagon (two tours), and the Arms Control and Disarmament Agency.

From 1987-1989 Mr. Roberts commanded a Psychological Operations Battalion at Fort Bragg, NC in support of the United States Central Command. In 1989 he was selected for promotion to Colonel, and returned to Washington, joining the newly formed Office of the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict. Serving as a Colonel in 1992 he left active duty to accept an appointment in the Senior Executive Service in the Office of the Secretary of Defense.

As a Senior Executive he worked in the Special Operations and Low Intensity Conflict field from 1992 until 1999 handling a wide variety of Special Operations policy and oversight responsibilities. From 1999-2000 he served as the Director, NATO Policy in the Office of the Assistant Secretary of Defense for International Security Affairs. In 2000 he was assigned as the first Defense Policy Advisor to the United States Mission to the European Union, in Brussels. There he focused on the European Union's Common Foreign and Security Policy, and the early development of defense capabilities in the EU.

In 2003 he was reassigned to the Pentagon, to the Special Operations and Combating Terrorism Office where he was the Principal Director and acting Deputy Assistant Secretary of Defense. From 2006-2009 he served as the U.S. Deputy Director of the George C. Marshall European Center for Security Studies in Garmisch-Partenkirchen, Germany. In 2009 he returned to the Special Operations and Combating Terrorism Office in the Office of the Secretary of Defense.

He and his wife Beth Wald live in the Virginia suburbs. Beth is a senior intelligence officer with the Defense Intelligence Agency. They have three children, two grandchildren, and two dogs, a beagle and a poodle mix mutt.

*James Schmitt*  
*Vice President and Director*

## **CREATIVE ASSOCIATES' CENTER FOR STABILIZATION AND DEVELOPMENT**

James Schmitt is the Vice President and Director for the Creative Associates' Center for Stabilization and Development which is focused on study, design, and implementation of stability operations solutions in complex environments around the world. The Center currently supports stabilization initiatives in Iraq, Afghanistan, and in multiple counties within Africa, and frequently participates in the development of effective stabilization practices at national-level institutions and academic centers.

James has spent over 20 years within the stabilization, security, and peacekeeping support sectors in field and project management assignments in North America, the Middle East, Africa, Europe, and Asia.

In 2002, he was assigned to the U.S. Embassy Amman as a Special Operations Liaison Officer and in 2003 James led the initial deployment of CENTCOM's Special Operations Command's Jump TOC intelligence staff into Iraq during Operation Iraqi Freedom. Other assignments and projects include the NATO Kosovo Verification Coordination Centre in 1999, the DoD Joint Staff Crisis Action Team in 2001, the Iraq Weapons of Mass Destruction Disposition Support Program in 2003, Hurricane Katrina Crisis Response in 2005 and Liberia in 2008. James first deployed to Afghanistan in 2002 and has returned there on multiple occasions most recently in July 2010.

In 2007, James served as Chairman of the Board for the International Peace Operations Associations (IPOA). He has been a featured speaker at Harvard University, National Public Radio, the Corporate Council on Africa, and the U.S. Army War College as well as a panel member at other major conferences throughout the United States. In February 2008, he served as an expert witness to the US Senate Committee on Homeland Security and Government Affairs.

James received his Master's Degree in Business Administration from Babson College in Wellesley, Massachusetts and is a graduate of the Kellogg School of Management's, "Leadership in Crisis Situations" program. He is an ROTC Distinguished Military Graduate and was awarded a Regular Army commission in the Infantry in 1988.

*Captain Vincent R. Martinez*  
*Commander Navy Expeditionary Combat Forces Central*  
**COMMANDER TASK FORCE 56**



**CAPT Vincent R. Martinez** was born in Syracuse, New York. He graduated from Alfred University with a Bachelor's Degree in Finance and earned his Master's Degree in Organizational Leadership from Chapman University. He received his commission from Officer Candidate School; his initial training included surface warfare and basic diving and salvage officer. After serving his initial tour aboard USS BOLSTER (ARS 38), CAPT Martinez attended Explosive Ordnance Disposal (EOD) training.

CAPT Martinez's operational tours include: EOD Mobile Unit 3 Detachment 1 Officer-in-Charge, Marine Mammal Systems Officer for MK7 and MK4. During this time frame, he deployed to Mogadishu, Somalia and to the Republic of Korea as the EOD Staff Officer to Commander, Naval Forces Korea. As EOD Mobile Unit 3 Detachment North Island Officer-in-Charge, he was responsible for waterside explosive security, following the Oklahoma City bombing, for the Republican National Convention. In 1997, he reported to Naval Explosive Ordnance Disposal Technology Division with additional duty to Program Executive Office for Mine Warfare as the EOD Underwater Program Manager. In August 2000, he reported to UFFC N8 Directorate as EOD, Diving and Mine Warfare Requirements Officer.

CAPT Martinez served as Executive Officer of EOD Mobile Unit 6. In February 2003, he deployed for Operation IRAQI FREEDOM as EOD Liaison Officer to I Marine Expeditionary Force planning operations for the initial assault, to secure the Port of Umm Qasr, and was the EOD Commander ensuring the safety of the Southern Iraqi Oil Fields for the U.S. Army Corps of Engineers.

CAPT Martinez commanded EOD Mobile Unit 5 located in Guam, where his forces supported Operations IRAQI and ENDURING FREEDOM, Commander, U.S. Pacific Command, Commander, SEVENTH Fleet, Commander, Task Force 76, Commander, Special Operations Command Pacific, and Joint Special Operations Task Force-Philippines. In February 2007, he served as the Deputy Director of Technology and Requirement to the Joint Improvised Explosive Device Defeat Organization. He then deployed to Afghanistan in March 2008 as Deputy Commander of Joint Task Force Paladin for one year.

CAPT Martinez assumed command of Navy Expeditionary Combat Forces Central / Task Force FIVE SIX on 30 June 2009. He has earned designation as Surface Warfare Officer, Special Operations Officer, Master EOD Technician, Naval Parachutist, and Acquisition Professional. He has screened for Sequential Major Command and Major Acquisition Command.

His personal decorations include the Bronze Star Medal, Defense Meritorious Service Medal, Meritorious Service Medal, Navy and Marine Corps Commendation Medal (seven awards and one for Valor), Navy and Marine Corps Achievement Medal, Combat Action Ribbon (two awards), Presidential Unit Citation, and numerous service and campaign awards.

*Captain William M. Shepherd*  
*Command Science Advisor and Director*

**SPECIAL OPERATIONS RESEARCH, DEVELOPMENT, AND ACQUISITION CENTER (USSOCOM)**

CAPT William M. Shepherd is the Command Science Advisor and Director of Science and Technology for the Special Operations Research, Development, and Acquisition Center, United States Special Operations Command (USSOCOM), MacDill Air Force Base, Florida. He is responsible for Research and Development funded activities within USSOCOM.

CAPT Shepherd graduates from the US Naval Academy and was commissioned in the US Navy in 1971. He completed Basic Underwater Demolition Team (UDT)/SEAL training in 1972, reported to UDT-11, and deployed to the Western Pacific with the UDT detachment in Subic Bay, Republic of the Philippines. CAPT Shepherd was subsequently assigned to SEAL Team ONE and spent 2 ½ years as a platoon commander, deploying to Korea, the Philippines, and Alaska.

CAPT Shepherd attended the Navy's Naval Construction and Engineering program at MIT, graduating in 1978 with the degrees of Ocean Engineer and Master of Science in Mechanical Engineering. He returned to the Special Warfare community as a platoon commander and operations officer at SEAL Team TWO. Between 1981 and 1983 he was assigned to a Navy field unit where he worked on rapid development projects. CAPT Shepherd assumed command of Special Boat Unit TWENTY in 1983, conducting deployments and operations in El Salvador, Honduras, Grenada, and Beirut. He applied to NASA for the Astronaut Program in 1984, and was selected as one of the 17 candidates in Astronaut Group 10.

After a year of astronaut training at Johnson Space Center in Houston, CAPT Shepherd was assigned to work pad "closeout" operations for Space Shuttle Challenger in 1986. He flew 3 Shuttle missions as a Mission Specialist Astronaut and flight engineer-STS 27 in 1988, carrying a DOD payload, STS 41 launching the solar probe "Ulysses" in 1990, and STS 52 in 1992, which carried the LAGEOS research satellite to orbit.

In 1993 CAPT Shepherd was assigned as the Program Manager for the International Space Station, a 16-nation partnership to build a new orbital "gateway" to space. CAPT Shepherd led the 12,000 person government/industry team in the technical, management, and operational details of the new program. CAPT Shepherd helped to establish NASA's unprecedented relationship with Russian government and aerospace leaders, and to integrate their equipment, techniques, and procedures into this truly "international" effort.

In 1996, "Shep" was selected to form a flight crew with Russian Cosmonauts Col. Yuri Gidzenko and Sergei Krikalev, and command the first crew to the new station. After 4 ½ years of training in Moscow and Houston, the "Expedition One" crew launched to orbit in October 2000 and began permanent human operations aboard the 100-ton Space Station Complex. "Expedition One" activated the Russian and American modules, supersized 3 Space Shuttle and 2 "Progress" vehicle dockings, and carried out assembly, checkout and initial operations of 3 new station modules. After 141 days in space, and a voyage of 58,000,000 miles, the crew returned to earth aboard the Space Shuttle Discovery in March 2001.

In July of 2001, CAPT Shepherd returned to the SEAL community and completed a 30 year NAVY career with an assignment to Commander, Naval Special Warfare Command, assisting with the development of new capabilities and programs for the SEALs of tomorrow. He retired from active duty in 2002 to work on private research and development projects in the aerospace and defense sectors. CAPT Shepherd is presently onboard USSOCOM as Science Advisor, managing the command's science and technology portfolios.

CAPT Shepherd's awards include the defense Superior Service Medal, the Legion of Merit, the National Intelligence Medal, NASA's "Steve Thorne" airmanship award, the Komarov Diploma, the Gagarin Gold Medal, the Robert H. Goddard Trophy, and the Congressional Space Medal of Honor. In March 2010, The International Space Station Team was awarded the Collier Trophy, which recognizes the Nation's highest achievements in aviation and astronautics.

CAPT Shepherd is married to the former Beth Stringham of Houston, Texas.

*Vice Admiral William H. McRaven*  
*Commander, Joint Special Operations Command*

**UNITED STATES NAVY**



Vice Admiral McRaven assumed command of the Joint Special Operations Command (JSOC) on June 13, 2008. Prior to assuming command, he served from June 2006 to March 2008 as commander, Special Operations Command Europe (SOCEUR). In addition to his duties as COMSOCEUR, he was designated as the first director of the NATO Special Operations Forces Coordination Centre (NSCC), where he was charged with enhancing the capabilities and inter-operability of all NATO Special Operations Forces.

Vice Adm. McRaven has commanded at every level within the special operations community, including assignments as deputy commanding general for operations at JSOC, commodore of Naval Special Warfare Group 1, commander of SEAL Team 3, task group commander in the CENTCOM area of responsibility, task unit commander during Desert Storm and Desert Shield, squadron commander at Naval Special Warfare Development Group, and SEAL platoon commander at Underwater Demolition Team 21/SEAL Team 4.

Vice Adm. McRaven's diverse staff and interagency experience includes assignments as the director for Strategic Planning in the Office of Combating Terrorism on the National Security Council Staff, assessment director at U.S. Special Operations Command, on the Staff of the Chief of Naval Operations and the chief of staff at Naval Special Warfare Group 1.

Vice Adm. McRaven's professional education includes assignment to the Naval Postgraduate School, where he helped establish and was the first graduate from the Special Operations/Low Intensity Conflict curriculum.

*Randy A. Weaver*  
*Senior Director, Intelligence Analysis Programs*

**CONCURRENT TECHNOLOGIES CORPORATION**

In the course of his more than 30 years as an intelligence professional, Mr. Weaver has served in a wide variety of intelligence positions in the United States and abroad. He has served with the U.S. Army, the Federal Bureau of Investigation, U.S. Department of Justice, the White House, and the U.S. Department of Homeland Security. Mr. Weaver's military career covered a broad range of tactical and strategic assignments and included nine years of experience in signals and electronic intelligence and 10 years of experience specializing in intelligence support to unconventional operations. His career is highlighted by numerous Army and joint commendations, as well as commendations from Members of Congress, the U.S. Attorney General, U.S. Attorneys, and the White House Chief of Staff.

Mr. Weaver has extensive experience in Signals Intelligence, Human Intelligence, and All-Source Intelligence analysis, as well as criminal intelligence, counterinsurgency, counterterrorism, and counterdrug operations and analysis. In the latter half of his career, Mr. Weaver's experience was spent almost entirely in the interagency environment where he coordinated intelligence support to high-level investigations and interagency programs with various federal, state and local agencies, members of the National Intelligence Community, and DoD.

An experienced public speaker, he has taught and spoken at numerous state, regional, national, and international conferences on a variety of subjects related to intelligence. Among the highlights of his career, he served as: Chief of the Low Intensity Conflict Threat Branch at the U.S. Army Intelligence Center, where he instructed over 3,000 U.S. and foreign intelligence officers in the U.S. and overseas; Senior Intelligence Officer at the White House on the staff of former Pennsylvania Governor Tom Ridge; Deputy Director of Operations for the U.S. Department of Homeland Security; Chief of Document and Computer Exploitation for the U.S. Department of Justice, National Drug Intelligence Center; and concluded his career with the U.S. Government as Assistant Director for Intelligence, National Drug Intelligence Center.

Mr. Weaver is presently the Senior Director of Intelligence Analysis Programs at the Concurrent Technologies Corporation, CTC, in Johnstown, Pennsylvania. In this position, Mr. Weaver provides leadership and oversight to CTC analytic programs in support of the U.S. National Intelligence Community and other government and commercial clients. He also serves as a Subject Matter Expert and corporate advisor on advanced analytics, homeland security, counterterrorism, counterdrug, and interagency operations.

Mr. Weaver received his baccalaureate degree from the State University of New York, majoring in Russian, Political Science and Mathematics. In 1991, he received a Master of Science degree in Strategic Intelligence from the National Defense Intelligence College, and he is a 2001 graduate of the Senior Executive Fellows Program at Harvard University's John F. Kennedy School of Government. He is married to the former Linda DeFelice; has four children: Kristen, Amanda, James, and Samantha; and resides in Johnstown, Pennsylvania, with his family.

*Kevin D. Wright, USA*  
*Director, U.S. Strategic Command*

**USSTRATCOM**

Colonel Kevin D. Wright has been the Director of Non-Kinetic Effects (J39) for U.S. Strategic Command (USSTRATCOM) since June 2008. He serves as the principal staff officer responsible for planning, coordinating and integrating information and cyberspace operations in support of USSTRATCOM global missions.

He recently completed a deployment to Afghanistan as leader of the USSTRATCOM Forward Integration Team - a small team of subject matter experts tasked with integrating space and cyberspace-derived non-kinetic effects into ISAF operations.

Colonel Wright received his commission through the ROTC program at Brigham Young University in 1986 and has served in a variety of command and staff assignments during his 24 years of service. He is a graduate of the U.S. Army War College and holds a Master of Business Administration degree from Johns Hopkins University. Additionally, Colonel Wright completed the Federal CIO Certificate Program at Carnegie Mellon University in 2007.

*Bryan E. Braswell, USN*  
*Cyberspace Operations Branch Chief*

**U.S. STRATEGIC COMMAND**

Commander Bryan Braswell was commissioned via the NROTC program at the University of Virginia and is a career Cryptologic and Information Warfare Officer. His Signals Intelligence and Information Operations assignments ashore include the Naval Security Group Activity, Edzell, Scotland and the Naval Information Warfare Activity. He also served as Executive Officer of U.S. Navy Information Operations Command in Yokosuka, Japan. His assignments afloat include a tour as the Information and Electronic Warfare Officer aboard USS KINKAID (DD 965) and a tour as Cryptologic Resource Coordinator for the staff of Commander, Carrier Strike Group FIVE and Commander, Battle Forces SEVENTH Fleet (CTF 70) embarked aboard USS KITTY HAWK (CV 63) and home-ported in Yokosuka, Japan.

Commander Braswell is qualified as a Surface Warfare Officer and Tactical Action Officer (afloat). He holds a Masters Degree in Electrical Engineering from the Naval Postgraduate School (NPS) and was selected for a seven-month Associate Fellowship with the CNO Strategic Studies Group (SSG) at the Naval War College in Newport, Rhode Island.

Commander Braswell is currently serving as the Cyberspace Operations Branch Chief in the Non-kinetic Operations Division (J39) at U.S. Strategic Command. Bryan is married to the former Tracy Jean Froehle of Anchorage, Alaska and has two sons: Brandon Edmund and Alex Robert.

*Barry D. Bates*  
*Major General, US Army, (Ret)*

**VICE PRESIDENT, OPERATIONS, NATIONAL DEFENSE  
INDUSTRIAL ASSOCIATION**

Prior to retirement from the U.S. Army on 1 January 2003, General Bates served as the Commander, 19th Theater Support Command, Eighth U.S. Army, Republic of Korea. In this capacity he was responsible for logistics support and installation management for U.S. Army forces in Korea, as well as for planning wartime logistics to support U.S. Army units deploying to Korea in the event of hostilities.

Previous positions held include Commander, Army and Air Force Exchange Service, Dallas, Texas; G4, Eighth U.S. Army / J4, U.S. Forces Korea / Deputy C4, Combined Forces Command (ROK/US), Republic of Korea; and Vice Commander, Army and Air Force Exchange Service, Dallas, Texas.

During his 32 years of military experience, General Bates has held a variety of command and staff positions in both the continental United States and overseas, serving multiple tours of duty in a joint command environment. He has held both command and staff positions in supply, maintenance and field services organizations, and in the Army's Training and Doctrine Command.

General Bates is a graduate of Oklahoma State University with a BS in Business and holds an MS Degree in Logistics Management from the Florida Institute of Technology. He is a graduate of the Industrial College of the Armed Forces and has been recognized as a Certified Professional Logistician by the Society of Logistics Engineers.

General Bates joined NDIA in February 2003. He and his wife, Laureen, reside in suburban Virginia.

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